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Editorial

It has been ten years since the inception of this Journal.

Over the years, a large number of articles have been written, creating a data base of all our work. This is also uploaded on to our website: www.daysurgeryindia.org for all to read.

The 10th issue, as I would like to label this year's volume, is a combination of last year and this year's Journal. Due to unavoidable reasons, we had to club the past two volumes of our journal.

'Ambulatory Surgery Handbook' released by The International Association for Ambulatory Surgery this year, has contributions from all the leading country members, including us. It is available as an e-copy on iaas-med.org for you to read.

As I have been going through the articles on Day Care Surgery contributed by our members, it feels heartening to see innovations shared, by Dr. D. U. Pathak. A number of articles coming in from medical institutes, Dr. Bhavinder Arora and his team have been regular contributors. Including Dr. N. G. Menon from Kochi.

The super-specialty work in the form of Laparoscopic Cholecystectomy published by Dr. Patta Radhakrinsha and colleagues, have done impressive work.

Dr. Pooja Baagdi Agrawal, an enthusiast of anaesthetic blocks, will be propagating Ambulatory Anaesthesia by forming a Society itself! My best wishes are with them.

Accreditation and Quality in healthcare industry has become a sensitive issue. Here, patients' expectation has increased and every Centre wants to portray that they are the best. Along with affordable treatment there is a need for affordable Accreditation system. We are moving in an era where there is a stiff competition already, now, there will be a race towards who is the best. Our Association is in the process of setting up our own Accreditation Board, manned by our members and in consultation with organisations, will provide systems and protocols on Day Care Surgery, specifically written, through an ISO and other Quality Management Company. I do hope we all will be able to utilise this and provide High Quality, yet affordable, standardised treatment to all our patients.

Statistics from my own Center shows a growing trend in the increase of Day Care Surgery cases which it self presents a proff of a very successful concept.

All in all, plenty of progress at all fronts. We all should keep up the good work.

Happy reading.

Dr. T. Naresh Row

Semi closed haemorrhoidectomy under pudendal block: Day surgery

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Abstract:

Background

Haemorrhoidal disease is the most common of all anorectal diseases. Haemorrhoidectomy is considered the standard procedure for third and fourth degree haemorrhoids. This study is aimed to assess semi closed haemorrhoidectomy under pudendal block as day surgery procedure.

Material and Method

This prospective study was carried out on thirty patients. Patients with third and fourth degree haemorrhoids were included in the study. These patients were operated under pudendal block using 1% Lignocaine as local anaesthesia. In all patients semi closed haemorrhoidectomy was done. All patients were operated as day surgery procedure.

Results

Post operative symptoms like pain, bleeding, urinary retention, constipation, prolapsed of residual haemorrhoids, duration of hospital stay and quality of life were assessed with one month follow up. Twenty nine patients tolerated this procedure under pudendal block with minimum complications.

Conclusions

Semi closed haemorrhoidectomy under pudendal block is feasible, safe and well tolerated procedure in day surgery with minimum complications which can be managed easily.

Introduction

Haemorrhoids are the most common of all anorectal diseases. They are classified as external or internal depending on their position above or below the dentate line. The precipitating cause can be straining at defecation due to constipation, low residue diet, sphincter damage, pregnancy, portal hypertension, senile weakness of muscle supporting the veins, prostatism, sitting or standing for long time, hereditary predisposition, obesity, lifting heavy weight for long period, repeated diarrhoea and dysentery^{1,2,3}. The exact pathophysiology of haemorrhoids is not known but has been attributed to high resting anal pressure, intrinsic weakness of blood vessel wall, excessive arterial blood flow, secondary obstruction to outflow and increased intra abdominal pressure^{4,5}.

Many treatment modalities are available like dietary management, office procedures, day surgery procedures and surgical procedures which need hospitalization. Dietary treatment is the best for prevention and also as part of treatment of haemorrhoids. It includes high fibre diet, plenty of fluids and bulk laxatives². Most of haemorrhoids are amenable to office or outdoor procedures like rubber band ligation,

injection sclerotherapy, photocoagulation, cryosurgery, infrared coagulation, laser therapy and herbal chemical cauterisation. These office procedures are acceptable to most of patients' also¹⁴.

Surgical options are the treatment of choice when conservative treatment has failed and for grade three or four haemorrhoids³. Conventional open haemorrhoidectomy devised by Milligan et³ is the standard operation for third and fourth grade haemorrhoids. However this open haemorrhoidectomy is associated with considerable post operative pain requiring long hospital stay and healing time^{3,4}. The attempt to reduce post operative pain following open haemorrhoidectomy, have led to modification in surgical techniques and preoperative treatment regimen. These modified techniques include haemorrhoidectomy with lateral internal sphincterotomy¹⁵, closed haemorrhoidectomy¹⁶, semi closed haemorrhoidectomy⁴, diathermy haemorrhoidectomy⁵, use of anal sphincter relaxants¹⁶ and transverse mucosal haemorrhoidectomy using a circular stapling device^{8,9}. These techniques can be done as day surgery procedures under local anaesthesia general and regional anaesthesia⁶ are associated with nausea, vomiting, hypertension, urinary retention and temporary motor

weakness causing delay in mobilisation and discharge from hospital¹⁰.

Pudendal nerve block¹⁰ can be given in ischiorectal fossa on both sides when pudendal nerve passes upwards and forwards along lateral wall of ischiorectal fossa through Alcock's canal, a sheath of obturator fascia. Single local anaesthetic like Lignocaine or combined with Bupivacaine are used^{18, 19}.

The aim of this study is at evaluating feasibility, acceptability and post operative complications of semi closed haemorrhoidectomy under pudendal block in third and fourth grade haemorrhoids.

Material and Methods

This study was carried out in department of surgery, PGIMS, Rohtak. Thirty patients were operated between years 2011 – 2013. Informed consent was taken for surgery under local anaesthesia. Those patients having grade three or four haemorrhoids and second degree haemorrhoids with failed conservative treatment were included in this study. Those patients assessed poor ASA grade III OR IV (American Society of Anaesthesiologist), and those with coagulopathy, bladder outlet obstruction, associated colorectal tumour or other anorectal diseases like crohn's diseases and ulcerative proctitis were excluded from study.

All patients were investigated preoperatively on outdoor basis. Blood investigation like Hb, TLC/DLC, Complete urine analysis, Blood urea, Blood sugar, X-ray chest and ECG were done. Digital examination of anal canal and proctoscopy was done in all the cases.

Technique

Patient who was fit for surgery were called on the day of surgery. Patient was given enema in the morning. After evacuation of stools this patient was started intravenous fluids. The patient was given intravenous Tramadol injection. The patient was placed in lithotomy position. After cleaning and drapping, pudendal nerve block within Alcock's canal is given by infiltrating 10 ml of 1% of Lignocaine solution. Local infiltration is used around anus using another 5 ml of Lignocaine solution. The patient was operated with semi closed technique of haemorrhoidectomy. In this technique anal dilatation is carried out first. A haemorrhoidal mass is held with a tissue holding forceps. An incision is given at the base of the haemorrhoid; it is dissected upwards till it reaches the neck of it. It is transfixated and ligated using 1-0 vicryl. This haemorrhoidal mass is then excised. This raw area is covered with this mucosa by applying this transfixation vicryl suture to apex of raw area. This covers the raw area thus making it semi closed haemorrhoidectomy. This technique of ligation and excision of haemorrhoid can

be repeated of other haemorrhoidal masses. All the patients were treated with this technique.

For pain assessment a linear analogue pain scale was used from zero to ten where 0 corresponds to no pain and 10 to severe pain. The results of this pain scale were divided into four groups. Absent pain - 0, mild pain 1-3, moderate pain 4-7, severe pain 8-10. Other symptoms in post operative period like ease of evacuation, retention or incontinence, pruritis and discharge per anus were also divided as mild, moderate and severe. For moderate and severe pain, injection Diclofenac was given intramuscularly. The patients were discharged from hospital next morning if they were free from severe pain. All the patients were advised oral antibiotics and analgesics. Sitz bath was advised twice daily and povidine iodine and metronidazole ointment for local use. Oral laxative syrup was prescribed to every patient. Lignocaine 5% cream was given for local application for reducing pain during defecation. Bleeding episodes per day were calculated for first week. It was mild if twice, moderate three to five times and severe if more than five times. Healing time was noted on weekly follow ups. Time taken for return to work was noted. Follow up was done on weekly in out patient department.

Results

During these three years period of study from 2011 to 2013, thirty patients gave consent for semi closed haemorrhoidectomy under local anaesthesia. Rest of patients suffering from haemorrhoidal disease were managed conservatively or by office procedure like band ligation. The age of patients varied from 25 to 65 years. Twelve of these were females while eighteen were males. The total duration of symptoms was 6 months to five years. These patients presented with grade three or four haemorrhoids, 75% of these were having prolapsed of haemorrhoids. In these patients, 23 haemorrhoids were at 3 o'clock position, 21 were at 7 o'clock and 18 were at 11 o'clock position. Only two patients had haemorrhoids with thrombosis. The duration of surgery varied between 15 to 30 minutes. The mean operative time was 22.5 minutes.

Table 1—Age and Sex distribution

Frequency	Sex	
	Male	Female
21-30	01	02
31-40	03	02
41-50	04	02
51-60	06	02
61-70	04	04
Total	18	12

Table 2—Degree of Haemorrhoids

	Frequency	Percentage
1 st Degree	-	-
2 nd Degree	-	-
3 rd Degree	10	33.4
4 th Degree	20	66.6

Patients suffering from 1st degree and 2nd degree haemorrhoids were not included in the study.

The results of pain in post operative period according to analogue scale were very encouraging.

Table 3—Linear Analogue Pain Scale

Score	Severity of pain	No. of patients
00	no pain, discomfort	05
1-3	mild	20
4-7	moderate	05
8-10	severe	00

Out of thirty patients, five felt no pain but had discomfort only. Mild pain was felt by twenty patients, five had moderate pain and none of them felt severe pain. All the patients had normal continence before surgery and none of the patients had incontinence. Healing time was 7 to 10 days. Complete healing has occurred by 2nd week follow up. Episodes of reported by seven patients. It was mild in four patients and moderate in one patient. All these patients had reactionary haemorrhage and none had primary haemorrhage. At 4th week follow up no anal stenosis or loss of sphincter tone was identified. Duration of work loss was recorded. Patient resumed work at an average of seven days.

Twenty nine patients tolerated pudendal block anaesthesia during surgery very well. Only one patient was given general anaesthesia as he could not tolerate the surgery under local anaesthesia. The time of first sensation of pain from administration of pudendal nerve block was one to two hours.

Discussion

Local anaesthesia was first used postoperatively to control pain in form of ointment. Subsequently it was used for haemorrhoidectomy under local anaesthesia^{6,7}. Then in view of gynaecological procedures being done under bilateral pudendal block, it was considered that haemorrhoidectomy can well be done under pudendal block^{10,18}. A combination of pudendal block and local infiltration produces does not produces any per operative pain but produces long post operative analgesia^{18,19}. The other advantages include early ambulation and early discharge, early healing resulting in

semi closed haemorrhoidectomy as day surgery. It reduces the cost of surgery and also encourages doctor patient relationship¹⁹. Most of our patients are from low economic strata, low cost of this semi closed haemorrhoidectomy and early return to work makes these patients to accept this form of surgery easily^{18,19}.

Some surgeons prefer spinal or general anaesthesia for haemorrhoidectomy as they achieve complete analgesia and muscle relaxation⁶. Studies have shown that adequate anaesthesia can be achieved using bilateral pudendal nerve block and local infiltration for this surgery when patients are medically fit and psychological prepared for this surgery^{10,18,19}. Both young and old patients tolerated this procedure very well.

Pain is the commonest complication of open, semi closed and closed haemorrhoidectomy. Adequate post operative pain control and comfort after semi closed haemorrhoidectomy under pudendal block are key factors for practising this as day surgery. Local anaesthesia combined with intravenous injection of Tramadol produces adequate anaesthesia, analgesia and muscle relaxation, it avoids problems associated with general and regional anaesthesia. This form of local anaesthesia is sufficient for semi closed haemorrhoidectomy as day care surgery.

In this semi closed haemorrhoid, the raw areas are small, so the healing time is reduced generally about seven days. Semi closed technique provides adequate drainage to blood and serum so complications like seroma, haematoma, infection and abscess are avoided. This reduces the post operative pain¹³.

This study concludes that semi closed haemorrhoidectomy under pudendal nerve block and local infiltration of Lignocaine is well tolerated by patients and feasible as day surgery. Although the number of patients operated is small, still patient's satisfaction was good. Based on experience, this semi closed technique can be extended to unfit patients.

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How can the Anaesthetist contribute to success of Day Care Surgery.

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Anaesthesia plays a large part in the successful management of day surgery and short stay surgery patients. Managing more challenging patients and those undergoing more complex procedures requires meticulous technique to minimise post operative problems such as pain, nausea and vomiting, dizziness and sore throat. Indeed the Association of Anaesthetists in the UK states “*Each anaesthetist should develop techniques that permit the patient to undergo the surgical procedure with minimum stress, maximum comfort and optimise their chance of early discharge.*”(1) Modern anaesthetic agents such as Desflurane and Sevoflurane are ideally suited to day surgery as is Total Intravenous Anaesthesia (TIVA) with Propofol. However experienced anaesthetists know that we have been able to perform day surgery successfully for years using isoflurane, enflurane and even halothane.

There is no one ‘ideal’ anaesthetic agent or technique for these patients but there are many common principles that should be adhered to. This article will review how the anaesthetist can contribute to the management of patients to optimise short stay surgery.

Preoperative Assessment

Successful day surgery requires careful selection of patients and consideration of the experience of the team involved. Therefore what may be right for one specialty and indeed one particular operation may not be right for another e.g. cataract extraction performed under topical local anaesthesia can be performed on a much older and frail population when compared to inguinal hernia repair.

For larger day surgery units then the assessment clinic can be run by suitably trained nursing staff supported by an anaesthetist with all patients being seen in advance of their surgery. It is necessary to have a system for dealing with problems identified by during this screening process. In general, pre-operative testing should be limited to

circumstances in which the results affect the patient treatment and outcomes. In smaller surgeon led units then the use of a screening questionnaire agreed with their usual anaesthetist can help the surgeon decide on the suitability of a patient for day care surgery.

Preoperative management

Non Steroidal Anti-inflammatory Drugs (NSAIDs) should be given whenever there are no contra-indications. The use of the intravenous or PR routes of administration is not necessary and there is evidence that giving the first dose orally about 1-hour preoperatively produces better and longer lasting pain relief (2,3)

Paracetamol is another drug that can be given orally preoperatively and reduces the need for more potent opioids with their unwanted side effects.

Intraoperative management

Infiltrating with local anaesthesia prior to making any skin incision reduces the amount of anaesthetic required by the patient and reduces postoperative pain more than infiltration at the end of a procedure. (2) Similarly the use of regional or local anaesthetic nerve blocks can significantly reduce the amount of anaesthesia the patient needs intraoperatively and so hasten recovery. The use of volatile agents or total intravenous anaesthesia should be at the level that is enough – but only just enough to ensure that the patient is comfortable. This balance is much more easily achieved in the patient who is breathing spontaneously and more of a challenge if you have to paralyse the patient. However this is the ‘art’ of anaesthesia and all anaesthetists should strive to achieve the goal of quick awakening after the procedure. It is important that protocols are in place for the management of post operative nausea and vomiting (PONV). While there is no evidence to support the routine use of prophylactic antiemetics there are good scoring systems that help

identify those patients who are at risk. (4) There is also good evidence antiemetics should form part of the anaesthetic protocol for certain procedures e.g. laparoscopic cholecystectomy, laparoscopic sterilisation, tonsillectomy, squint surgery and bariatric surgery. A useful review of the use of the scoring system suggested by Sinclair can be found on the BADS website along with an electronic version allowing you to score your patients. (5)

An important area that is linked to PONV is the use of long acting opioids and morphine in particular. This is an area that causes major discussion between anaesthetists and recovery staff in my own country. There is no doubt that when used carefully (in doses of 0.1mg/kg or less) patients can be discharged home following the use of morphine. (6) However it is also certain that even in low doses it increases the incidence of PONV and when used in larger doses reduces the chance of discharging patients home. The use of intravenous fluids (20ml/kg) has been shown to reduce the incidence of thirst, drowsiness and dizziness and if dextrose 5% in ringers lactate solution is used it may also benefit PONV. (7,8)

As more complex procedures are performed it is necessary to consider the prevention and management of intraoperative hypothermia. This is especially true in older patients and there is a suggestion that postoperative infection is reduced in patients who are actively warmed prior to surgery.

Regional nerve blocks can provide excellent conditions for day surgery. Patients may be discharged home with residual sensory or motor blockade, provided the limb is protected and that a carer is available to provide assistance. The introduction of low dose spinal anaesthesia either with bupivacaine + fentanyl mixtures or with newer agents such as 2 chloro-procaine has increased the suitability of central neural blockade for day case surgery. (9) This can be useful for lower limb, perineal and lower abdominal procedures and may allow more problematic patients to be done as a day case. It is important to understand that this technique results in far less motor blockade than a traditional spinal anaesthetic as this may affect surgical technique.

Recovery

Where possible beds should be avoided. Many units are now successfully using recliner chairs at an early stage of the recovery process and find this helps the patient mobilise.

Oral analgesics remain the mainstay of pain control following day surgery. NSAIDs in association with paracetamol/codeine combination tablets are most commonly used in day surgery and their use is supported by the published evidence(10). However as larger operations are undertaken units are looking at the use of Oromorph or newer agents such as Oxycodone as discharge drugs. However Oxycodone is a controlled drug in the UK and this makes it more difficult to dispense and can lead to delays in the discharge process.

Whichever drug is prescribed it is important that the patient receives their first dose prior to discharge and before the effect of any short acting opioids or local anaesthesia wears off. With larger operations patients should also be advised about the requirement for regular dosing for the first few days and which over the counter drugs they can move onto if they still require analgesia once their supply of tablets has finished.

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A new procedure for Fistula in Ano: PAL (Per- Anal Ligation)

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Introduction

This article is aimed for the consideration of this new procedure by the day care surgeons already practicing and proficient in fistula surgery, hence the unnecessary basics of anatomy, classification and detail of the methods of treatment of fistula in Ano is omitted.

Fistula in Ano is a complication of crypto glandular abscess. The treatment is aimed at obliterating the internal opening and destruction of the distal tract without making the patient incontinent.

Various methods to treat and their analysis are as follows: -

1. Lay open the tract.
2. Seaton in case of fistula above the puborectalis.
3. Coring or division of sphincter and primary repair after excision of the tract
4. Fistula plug.
5. VAFT.
6. LIFT.

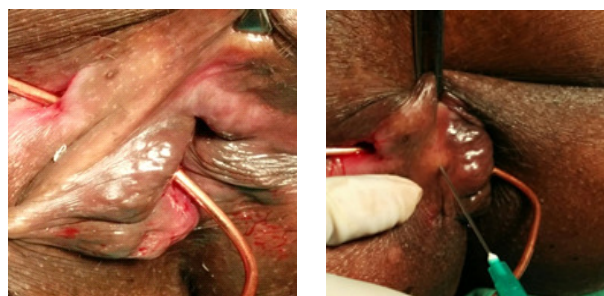
Material & Method

This study started in January 17th 2014. It was an accidental innovation while trying to do LIFT. As it became difficult to find the tract in Inter Sphincteric plane, we proceeded medially and found that it is easiest to find the tract where it emerged out, i.e just out side the internal opening, hence named Peri anal Ligation (PAL). This is a pilot study. Only 9 patients have been operated till Mid March, with close follow up and documentation.

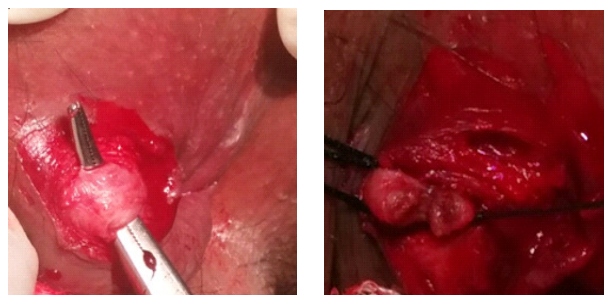
Technique

The external opening is canulated and normal saline with hydrogen peroxide is injected to define the internal opening. If it is unclear, Methylene blue is tried.

The tract is gently negotiated with a pliable probe, which is bent and taken out of the Anus and Xylocaine muco cutaneous junction.



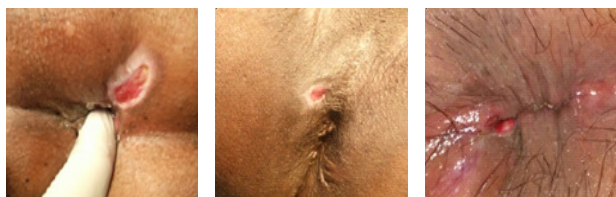
Incision given on the skin over the inserted probe in the fistula tract and the tract hooked from below the probe. It is very simple due to the indwelling metal probe. Tract transfixed and transected



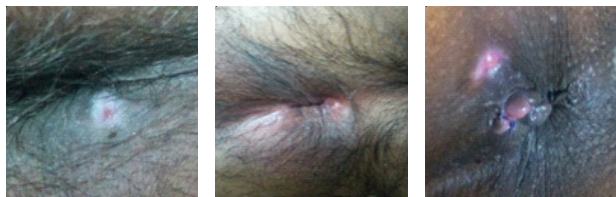
Distal tract can be Cored, or cauterized. Perianal space can be left open or primarily closed.



They behave well post op and show good healing in 2-3 weeks.



Most of the fistulae are healed in 30 to 40 days.



The problems of treating Fistula in Ano

- It is a morbid disease having 15 to 40% recurrence whatever the procedure.
- There is always fear of incontinence of which most of the patients are aware and concerned of.
- Patients are away from their job for a long time.
- The option to get early to job (VAFT) is very costly incurring about 6- 7 lakhs of initial instrument cost and 5- 7 thousand recurring cost for every procedure. Available in only higher centres with a package of around 70,000 to 100,000 rupees.
- The economically viable option is LIFT, but it requires an intense training, is difficult in even expert hands, hence cannot be reproduced easily, making it not popular though it being a wonderful technique.
- Other conventional methods like Laying open, seton carry a long painful recovery with daily dressings.
- Coring, excision and primary repair of sphincter is not every ones cup of tea, it requires high expertise and confidence with a great risk of incontinence.

PAL (Peri Anal Ligation)

Is easy to operate and learn.

It does not require any dressings of multiple follow ups. Patient can go back to work earlier than LIFT, though not immediately like VAFT.

The operating time is only around 30 minutes, patient can go home the same day and get back to his job within 2-3 days.

The early results are encouraging. There is no early incontinence. Future will show the delayed results. All the patients are under close follow up with serial evaluation of wound and photographs..

Fecal incontinence and Recurrence

Patient and the operating surgeon as well, both are concerned of Fecal incontinence in early post op recovery and recurrence in delayed phase.

In PAL there is no incontinence because even the internal sphincter is not damaged ensuring the flatus continence also.

As the recurrence is concerned, patient has following inhibition to undergo the repeat procedure :

- The fear of repetition of painful dressings and loss of job after conventional surgery.
- He cannot bear the cost of VAFT again.
- Very few are doing LIFT.

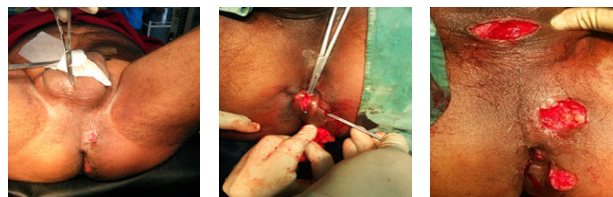
All the above concerns are ruled out in PAL. He will be ready for re operation and should be cured in one or two recurrences, just because it was less painful, economically viable and he went early to job after his first operation too!

Conclusion

According to the early results of the procedure the morbidity seems very low, because the patients had to be called for follow up, as they had no significant post op problems. We requested them to come weekly to see the progress of wound. Except for cleanliness and sitz bath, no anti biotic local ointment was suggested. Oral antibiotics were given only for 5 days. Multicentral trial and long term follow up will truly analyze this new procedure.

Various other Fistulas operated by PAL

Supra shincteric high fistula – multiple with separate internal openings. Passing gas from scrotum.



Demo of tracts

Hooking and PAL

After coring, immediate post op.

Straight Intersphincteric fistula:



PAL,

Coring and primary closure done



Follow-up result.

Basal Cell Carcinoma Masquerading as Trichoepithelioma.

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Abstract

Basal Cell Carcinoma (BCC) is the most common skin cancer of the skin. Although the exact etiology of BCC is unknown, a well-established relationship exists between BCC and the pilosebaceous unit, as tumors is most often discovered on hair-bearing areas. It is more prevalent in white skinned population. Australia has the highest incidence. BCC is usually seen in hair bearing areas. It is more common in head and neck. Moh's micrographic excision is the most effective treatment. This patient had lesion in the back which is not common and it was thought t be a Trichilemmoma, first. An excision biopsy followed by complete excision with adequate margins and primary split thickness graft was done. This case was entirely managed as day surgery. Patient was followed up for 7 years.

Case Report

A 56 year old Muslim male consulted the dermatologist on 02/06/2004 for a slow growing black patch on his back.

He had noticed this patch five years ago when it was much smaller. Since there was no pain or discomfort he had ignored the patch. However he had noticed this patch was growing slowly, spreading over his back.

He consulted the dermatologist because the patch had grown to almost 4 inches in size. The Dermatologist referred the patient to me for an incision biopsy.

The patient was a healthy middle-aged man. He was a non-vegetarian, did not smoke or drink. There was no history of any serious illness in the past. He had three children and there were no major medical problems in the family.

On examination, a 5cm x 4cm roughly oval lesion was seen on the middle of the back. It had a raised blue-black periphery of unequal width. The centre of the lesion was flattened and pink, with a few red spots.

The blood sugar was found to be raised- 360mg%.

A wedge of tissue from the lesion, which included the flattened centre, the raised blue-black edge and some normal skin adjacent to the lesion, was removed for histopathological examination.

The pathologist reported this as Trichoepthelioma. She recommended complete excision of the lesion and further study of the specimen.

After controlling his newly discovered diabetes with oral hypoglycaemic agents, he was taken up for surgery on 27th June 2004.

The lesion was excised completely with a margin of normal tissue all around. The resultant defect was grafted with split thickness skin taken from the flank.

The second histopathological examination showed that the lesion is a Basal Cell Carcinoma. The excision was adequate with the margins free of disease

The patient had an uneventful recovery and the both the donor site and the recipient area healed well. He was being followed up on a monthly basis for one year. Further follow up was done at 3 monthly intervals for 5 years. Later once in 6 months for 2 more years. He is doing well with no evidence of recurrence.

Discussion

These tumours grow very slowly and rarely metastasise. They may cause destruction of local tissue if not treated.

Pathophysiology

Although the exact etiology of BCC is unknown, a well-established relationship exists between BCC and the

pilosebaceous unit, as tumors is most often discovered on hair-bearing areas.

Many believe that BCCs arise from pluripotential cells in the basal layer of the epidermis or follicular structures. These cells form continuously during life and can form hair, sebaceous glands, and apocrine glands. Tumors usually arise from the epidermis and occasionally arise from the outer root sheath of a hair follicle, specifically from hair follicle stem cells residing just below the sebaceous gland duct in an area called the bulge. (1)

Incidence

Highest rates in Australia and lowest in Africa
1000/100,000 person-years for basal cell carcinoma (BCC)] and the lowest rates in parts of Africa (< 1/100,000 person-years for BCC) (3)

Race

BCC is seen in all populations, but more common in white populations.

Sex ratio

M: F 3:2 (UK)

Mortality and Morbidity

The prognosis for patients with BCC is excellent, with a 100% survival rate for cases that have not spread to other sites. Nevertheless, if BCC is allowed to progress, it can result in significant morbidity, and cosmetic disfigurement is not uncommon.

Although BCC is a malignant neoplasm, it rarely metastasizes. The incidence of metastatic BCC is estimated to be less than 0.1%. Nevertheless, after treatment, which is curative in more than 95% of cases, BCC may develop in new sites (2)

The 5-year recurrence rate is about 5%, but it depends on the histologic subtype and type of treatment; the recurrence rate is less than 1% for primary (previously untreated) BCC treated with Mohs micrographic surgery^(4,5)

Mohs micrographic excision seems to yield best results now

Most reports show that the distance to the closest resection margin is an important predictor of recurrence.

The following is a list of treatments and their 5-year recurrence rates for primary (previously untreated) BCCs:

- Surgical excision - 10.1%
- Radiation therapy - 8.7%
- Curettage and electrodesiccation - 7.7%
- Cryotherapy - 7.5%
- All non-Mohs modalities - 8.7%
- Moh's micrographic surgery - 1% *

Pathological types

- Ø Nodular
- Ø Cystic
- Ø Pigmented
- Ø Morpheaform (sclerosing)
- Ø Superficial

Differentials

- Actinic Keratosis
- Bowen Disease
- Fibrous Papule of the Face
- Keratoacanthoma
- Nevi, Melanocytic
- Sebaceous Hyperplasia
- Seborrheic Keratosis
- Squamous Cell Carcinoma
- Trichoepithelioma

Work up:

- ü Clinical examination
- ü Incisional biopsy
- ü Excision biopsy

Treatment

- Ø Surgical
 - Electrodessication and curettage
 - Surgical excision
 - Mohs micrographic excision
 - Cryo surgery
 - Ionizing radiation
 - Photodynamic therapy (2)

Ø Medical

- Topical 5-fluorouracil 5%: May be used to treat small, superficial BCCs in low-risk areas
- Imiquimod: Approved by the US Food and Drug Administration for the treatment of non-facial superficial BCC
- Tazarotene: Can also be used to treat small, low-risk BCCs

Follow up

Patient should be followed up for a minimum period of 3 years as recurrences are known.

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Pictures:



Lesion in Situ



Post operative picture 6 months after Primary excision and split thickness skin graft



Postoperative to show the site on the back

Ganglion of wrist: Minimum invasive treatment by loop suture

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Abstract

Background

Ganglion wrist is a benign cyst that commonly occurs on wrist joint on dorsal and volar surface. It constitutes 50% of all hand swellings. Various treatment modalities are conservative methods, minimum invasive method and excision of cyst.

Material and method

The study was conducted on one hundred patients with diagnosis of ganglion wrist on outpatient basis. Both simple and complex ganglion were included in the study. These patients were treated by a minimum invasive technique. A polypropylene suture 1-0 was used to place single loop suture into the ganglion. The contents were expelled by massage. The polypropylene suture was rotated in loop formed. This loop suture was kept for seven to ten days and then removed.

Results

This led to complete obliteration of ganglion in all the patients. Infection occurred in five patients which were treated with antibiotics. Persistent pain was present in one patient only. Two recurrences were occurred within one year. The results are comparable to others who have placed two loop sutures. The results are also comparable to surgical excision.

Conclusions

This technique produces 98% cure rate. It gives very good cosmetic results and avoids complications of surgery and anaesthesia. It suits well as day surgery procedure.

Introduction

Ganglion is common swelling of wrist, more common on dorsal aspect than volar aspect. They are common in second, third and fourth decade of life¹. The mucin filled cyst sac is usually attached to a wrist joint capsule or tendon sheath and is lined with collagen fibres¹. Clinical presentation is usually the painful swelling either on dorsal or volar aspect of the wrist joint. Trivial trauma as causative factor for the ganglion wrist is corrected by at least 10% of patients although pathogenesis remained unclear¹. Another theory proposed that stretching of the capsular and ligamentous structures increases mucin production². This mucin then dissects through these structures which form capsular ducts and then coalesce to form a cyst². These ganglia may be connecting the wrist joint by a short neck or may arise from a tendon sheath.

Several studies have shown that sonography is accurate in diagnosis of ganglion wrist. Although most have described ganglion wrist as simple or well defined cystic lesion³. Other have described these as complex based on sonography. Sonography findings included hypoechogenicity, septation, lobulation and ill defined walls. (1,8) With 53% of wrist ganglion cyst resolve spontaneously¹³. Surgical excision of

ganglion wrist remain the accepted gold standard of symptomatic ganglion wrist. Any invasive treatment should reliably warrant benefit outweighing presenting complaints. Minimum invasive technique like aspiration of the cyst⁹, hydrocortisone injection have been used^{5,11}. Minimum invasive suture technique has been used by gang and meklouf obtaining 95% cure rate with 2-0 silk suture¹³. We have used 1-0 polypropylene suture in single loop passed through ganglion wrist. This study was carried out to study the treatment of ganglion wrist by this minimum invasive technique.

Materials and methods

The study was conducted at PGIMS Rohtak in department surgery on outpatient basis. A total of 100 cases were included in the study. They attended the outpatient surgery department. Patients presenting with clinical diagnosis of ganglion wrist were investigated by haematological test. The ganglion which were hard on palpation or were present on volar surface of wrist joint particularly on radial artery on median nerve were subjected to sonography. All wrist ganglion whether simple or complex and present on volar surface; particularly over the radial artery were included in the study. Recurrent ganglion wrists after surgical excision

were excluded from study. Small wrist ganglia of less than 9mm in size were also excluded from study.

Technique of loop suture

These patients were operated in outpatient department as day care. After cleaning the wrist with povidine iodine, subcutaneous infiltration is given with 2% Lignocaine. The wrist is flexed to make the dorsal ganglion prominent. A monofilamentous poly propylene suture 1-0 is used to pass through the ganglion cyst cavity. A single loop is formed with a diameter of 5cm or more. The contents of ganglion which it contains, a jelly like material is expressed out. A pressure bandage is applied over wrist joint. The patient is instructed to remove this bandage and expel the contents by gentle massage. The patient is advised to pull the thread to and fro. These movements should be made at least thrice daily. A wrist band can be worn by patient over the wrist to press the ganglion cyst. After seven to ten days when the ganglion cyst has flattened, the loop suture is removed. However the patient continues to wear the elastic wrist band for another ten days. No antibiotics are given unless infection is apparent. The patient is followed at three months interval.

Results

Out of one hundred cases studied, seventy two (72%) were located on dorsal side of wrist, twenty (20%) were present on volar surface of wrist joint. Eight ganglions which were arising from the tendinous sheath, five were arising from extensor tendon sheath and remaining three was arising from flexor tendon sheath.

Clinically of these one hundred cases, seventy were simple cystic, twenty four were complex cystic and six were hard in consistency. The size of simple ganglia varied from 10mm-25mm whereas complex ganglia varied 21mm-40mm. The size of ganglia which were hard varied from 10-20mm.

Sonographic study were done in eighteen patients only, nine of these were unilocular simple cyst, six of these showed multilocular septation and thick wall, the remaining three were thick wall and contained solid gel probably due to previous haemorrhage. Haematological investigations were normal in all the patients.

This technique of single loop suture using 1-0 polypropylene was performed in all the one hundred cases of ganglion wrist. On opening the pressure bandage and gentle massage, the ganglion swelling disappeared completely in ninety six patients. In remaining four patients, the swelling disappeared by fifth day on gentle massage. No antibiotics were given except in three patients in whom infection occurred. The loop suture was removed on day seven, leading to complete disappearance of ganglion.

Recurrence was observed in five patients in three months follow up period. In these patients three were dorsal wrist ganglion and two were volar surface ganglion. The cosmetic results in all the patients were very good with no scarring even in patients in which infection occurred.

Discussion

The ganglia are most prevalent swelling around the wrist. Clinical diagnosis is used in diagnosis of ganglion wrist. The clinical diagnosis is quite accurate in most of patients with simple cystic ganglion. In case of complex cystic ganglion or the ganglion which have solid consistency clinically, sonography is used to differentiate lesions like synovial proliferation, giant cell tumour of tendon sheath and a collapsed ganglion³. It has been found that complex cystic ganglia are larger in size than simple ganglion. In this study, complex cystic ganglia were present with in dorsal or volar wrist and had a larger diameter as compared to simple ganglion. In addition, most of tendon sheath ganglia are simple and had a smaller diameter in comparison to ganglia arising from wrist joint. This is because that wrist ganglion become more complex as they enlarge in less restricted wrist soft tissue as compared to extensor and flexor tendon sheath ganglion that are restricted by surrounding tendon sheath and more likely to remain small in size³.

Patient often report changes in ganglion size over time. It is important to note locule on sonography because minimum form of treatment like aspiration of cyst alone, or with injection of hyaluronidase or hydrocortisone may be unsuccessful in ganglion with multiple locules³. On ultrasonography, solid appearing ganglia are collapsed due to haemorrhage inside it and relative proportion of constituents of mucin like glucosamine, albumin, globulin and hyaluronic acid³.

With 53% of wrist ganglion particularly less than 10mm resolve spontaneously¹³. Although surgical excision of ganglion remains the gold standard of symptomatic ganglion treatment but recurrence rate is high⁷. Minimum invasive treatment consists of aspiration of ganglion alone⁹, aspiration and injection of hyaluronidase¹⁰, aspiration and injection of hydrocortisone⁵; all with equal incidence of recurrence.

The loop suture technique was first used by Gang and Maktlouf in 1998. They placed two loop sutures of 2-0 silk through the ganglion at right angle to each other achieving 95% cure rate¹³. This minimum invasive suture technique was used by others with good results avoiding complications of operation and anaesthesia^{12,14}.

We have treated the wrist ganglion making single loop with 1-0 monofilamentous poly propylene suture. The jelly like Mucin is expelled by massage and leads to collapse of the cyst.

The collapsed walls of the cyst get adherent to each other; leading to obliteration of ganglion cyst cavity. The loop suture is moved in to and fro manner which helps in expulsion of mucin and ultimately a thin capillary like channel remains. This fine channel gets obliterated after removal of loop suture. Pressure due to elastic wrist band helps in forming adhesions of the two walls of the cyst. The results of this single loop technique are equivocal with others. The positive outcome achieved with this technique and minimum complications like infection only; we propose that this single loop suture technique for wrist ganglion should be treatment of choice as day surgery.



Polypropylene Loop Suture
In Dorsal Wrist Ganglion



Dorsal wrist Ganglion

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Paget-Von Schrotter Syndrome in a drug addict

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Case report

Background

Sir James Paget first described thrombosis of the subclavian veins in 1875. He coined the name gouty phlebitis to describe the spontaneous thrombosis of the veins draining the upper extremity. He observed that the syndrome was accompanied by pain and swelling of the affected extremity. However, he incorrectly attributed the syndrome to vasospasm. In 1884, von Schrotter postulated that this syndrome resulted from occlusive thrombosis of the subclavian and axillary veins. In recognition of the work of these pioneers, in 1949, Hughes coined the term Paget-von Schrotter syndrome. The incidence of this condition has increased remarkably over the past two decades because of the extensive use of catheters in patients with cancer and other chronic medical conditions.⁵

Introduction

Acute swelling and pain in the upper limb is due to occlusion of the axillary and/or subclavian veins by thrombus. This may occur as a primary phenomenon or as a result of the placement of an indwelling venous catheter, thrombophilia and thoracic outlet syndrome. Various risk factors includes- Vigorous and prolonged use of the upper limb in sporting/ other activity (primary 'effort-induced' form), Upper limb trauma, central venous catheter, eg internal jugular vein, subclavian vein (probably the strongest risk factor), recent hospitalisation, severe infection, neoplasia, thrombophilia, anatomical abnormality of thoracic outlet, intravenous recreational drug use and oral contraceptive.²

Patients tend to present promptly due to the acute discomfort and swelling, Pain in the axilla /around the shoulder, often aching and indistinct, Swelling of the arm and hand, Discolouration of the hand, 7-20% of cases may lead to pulmonary embolism with features of pleuritic chest pain, breathlessness and haemoptysis,¹ Oedema of the arm and hand - measure the biceps/forearm diameter at a fixed distance from an anatomical landmark., mild-to-moderate cyanosis of the hand, dilated superficial collateral veins may

be seen over the chest and upper arm - may be the only indicator in central venous cannulation, Fullness in the supraclavicular fossa and even a palpable cord of thrombosed vein, Jugular vein may be distended.³



Case Summary

A 35-year-old male agricultural labourer presented with the history of swelling and visible dilated veins over the right arm and shoulder for the last 6 days. He was having pain in the right arm. He was addicted to drug abuse of pentazocine which he used to receive in the dorsal veins of the hand and anti-cubital veins for the last three years. On haematological examination he was HBsAg positive. Colour Doppler examination revealed right axillary and subclavian vein thrombosis with multiple collaterals around the shoulder. The patient was treated with injection heparin for seven days followed by oral anti-coagulation therapy. A psychologist advised he should abstain from intravenous drug abuse. The edema and collateral veins disappeared after one week of therapy with heparin.

Discussion

It is sometimes referred to as spontaneous axilla-subclavian vein thrombosis to express the usually dramatic unexpected presentation of the disorder in otherwise healthy, generally young individuals.¹ Over the past 2 decades, recognition has

grown that the disorder can occur equally in both sexes and can affect all age groups. In the 1960s, the term effort-induced thrombosis was used to describe this disease to acknowledge that it often follows unusually strenuous use of the arm or shoulder on the affected side.

The pathophysiology of effort-induced thrombosis is multifactorial. It involves compressive changes in the vessel wall, stasis of blood, and hypercoagulability. External compression of the axillary-subclavian vein has been suggested to contribute to the stasis of blood that engenders thrombosis.

The factors that cause external compression include anomalous subclavius or anterior scalene muscle, long transverse process of cervical spine, cervical rib, abnormal insertion of the first rib, congenital fibromuscular bands, or narrowing of the costoclavicular space from depression of the shoulder; stress from exercise temporarily causing hypercoagulability; and repetitive shoulder-arm motion causing microscopic intimal tears in the vessel wall. These factors, taken together, satisfy the classic Virchow triad for thrombosis. Furthermore, coexistent hematologic abnormalities that can contribute to thrombosis include protein C deficiency, antithrombin III deficiency, factor V Leiden mutation, and prothrombin 20210A mutation. Anticoagulants with low-molecular-weight heparin and warfarin as per lower limb DVT is the mainstay of management.^[4]The limb should be kept elevated and warm. Sufficient analgesia should be prescribed, Catheter-directed

thrombolysis has been used and minimises damage to the vessel.¹Percutaneous thrombectomy in combination with local thrombolysis may also be used.^[1]Early thrombolysis may reduce the incidence of long-term complications but this has not been proven in the total population of sufferers of the condition,Surgical thrombectomy may be needed in some cases, However, despite these options, the use of low-molecular-weight heparin and warfarin is also the mainstay of treatment in catheter-related DVT - this can allow the central venous catheter to remain patent and in situ.^[5]

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Why every Day Care Surgery Center needs their own website.

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A few years ago, most doctors in India did not even know what an email address was ! Times have changed dramatically, and today most doctors use email regularly. However , this is no longer enough , because technology is progressing so rapidly. Doctors can no longer afford to be left behind.

The truth is that doctors in private practice in India can no longer afford not to have their own website. Just like you need a telephone line to practice medicine, a website has become an integral part of modern medical practice – and doctors who are not proactive are likely to get left behind!

This is especially true for day care surgery centers. Day care surgery is a relatively new concept in India today, and many patients are worried about the safety of doing surgery on an ambulatory basis. Patients still think of hospitals as being the best places to do surgery, because they are seen to be big and fully equipped to handle emergencies. They do not realize that day care surgery is much safer than surgery done in a hospital. This is both a challenge as well as an opportunity, and smart doctors understand the importance of using a website for online patient education, to reach out to patients.

The key to a day care surgery center's success is its ability to keep its patients happy and to provide them with excellent medical care . A day surgery center website allows the doctor to provide many value-added services for its patients. It can provide basic details such as:

- the timings of the center;
- directions as to how to get to the center;
- information on the specialized services offered;
- answers to patients' commonly asked questions (FAQs) ; and post-procedure instructions .

This means doctors can use their website to serve their patients round the clock , making their website a valuable support/contact center.

Times have changed and medical practice has become competitive ! Patients want a lot of handholding – and since a doctor only has 2 hands and 24 hours, it can be hard for him to do this properly when he is very busy. This is why he should invest in a website, to help him take better care of his patients !

The website allows doctors to answer patient's queries by email. Patients are thirsty for information about their illness, and many will use the internet to find information. Patients have become demanding and many will spend hours hunting for information, in order to help them to get better. Even if they do not have a PC, they can go to the cybercafé. Even illiterate patients do have relatives who can do internet searches for them ! However, most patients would much rather get information from their own doctor , and if doctors provide this information on their website, their patients know they can trust it.

Most doctors have now started seeing patients coming with Net printouts of pages and pages of unreliable and irrelevant information. This can be very frustrating for doctors because a lot of the information is garbage. If doctors publish their own website, they can guide patients to reliable sources of information – thus saving their patients the frustration of wading through hundreds of pages of misinformation ! By providing this information, the doctor established himself as a trustworthy, credible expert. Doctors can “refer” patients to their website at the end of the consultation, so patients can educate themselves . Patients appreciate this – and word of mouth will help doctors to get more patients.

Doctors need to educate their patients in Indian regional languages. This is a major opportunity, because there is such a major shortage of medical information on surgery in Indian regional languages. It's now very simple to upload videos of surgical procedures to Youtube. When patients see you demonstrating how safely and effectively you can perform surgery in your day care center, in terms they can understand, their confidence in your surgical skills will increase enormously. This will also make your life a lot easier !

Websites can help doctors to attract new patients . Indian medical care is very cost-effective, and a website is very valuable for informing NRIs of Indian medical expertise. Soon, it will become as routine for patients in India to do “ research “ about their doctors, as it is in USA, and a doctor’s website can help patients to find you ! At our website at <http://www.DrMalpani.com> - we answer over 100 queries a day, as a result of which we get direct patient referrals from all over the world ! Remember that internet positive patients may be slightly different from your average patient ! They are well-informed, used to getting second opinions, and can be quite demanding. Most are affluent, and know exactly what they want !

Websites are good for doctors because it forces you to become transparent and open. You cannot say one thing on your website and say something completely different within the four walls of your clinic ! It also helps you to become patient-centric because the website is being created for the patient; and a busy website will put patients first, by providing information which patients ask for !

Even though many doctors today understand the importance of having their own website, they often fall victim to procrastination, and do nothing concrete about this. Others are worried that setting up one is expensive; while some do not know whom to contact, because many web designers do not have the technical expertise to publish medical websites .

In order to address this problem, I have invested in a startup called Plus91. Plus91 (www.plus91.in) offers customised websites for doctors, tailored to your own specialty, for as little as Rs 10000 per year – and they can publish this so that your website is live within just 2 days . You can see what a website will look like at www.websitefordoctors.in !

A number of enlightened patients understand the importance of having a doctor who is online - and many of them have started gifting a website to their doctor. This is good for their doctor, and good for them as well, because their doctor is much more accessible through his website.

Information Therapy - the right information at the right time for the right person - can be powerful medicine ! Ideally, every doctor and clinic should have their own website , where their patients can find reliable updated information on their health problem . A website allows doctors to showcase their talent and grow their practice ethically. This will help patients as well , who will become aware of what medical facilities are available in India. The transparency which the web imposes will help to improve the doctor-patient relationship, by allowing much more open communication between doctor and patient, and cutting out

the middleman. Interacting with patients online will help doctors to become more patient-centric and empathetic. You need to have realistic expectations of what your website can do for you– it’s not a marketing tool ! In India, the number of Internet users is not yet as high as in the USA, so don’t expect patients to start pouring in the day the website goes live ! However this is actually an opportunity – especially if you provide unique local content. This is a great opportunity to reach thousands of people , and provide them with trustworthy information from the expert – the doctor !

You need to encourage patients to use their website and most will be happy to follow their doctor’s orders . And if the website has content which is useful to them, and which is updated on a regular basis so it is fresh and new, many will happily visit it regularly – and even refer many of their friends to the site as well .

Your website can actually help you doctor to remain on your toes – both professionally, because you need to update your medical knowledge to provide fresh content for your website , and to answer queries received by email from patients in all parts of the world, which means this is a great method of continuing medical education (CME) ; and technologically, because you will need to keep abreast of computer and internet technology. A website is valuable even for doctors in rural areas , who are often cut off from the rest of the world . This is a valuable way of “keeping in touch” , and contributing to the medical knowledgebase.

Some doctors are worried that having their own website may be misconstrued as a form of advertising. However, the internet is a very valuable means of educating patients, and doctors need to be in the forefront of providing reliable information to their patients. After all, if doctors don’t take responsibility for educating patients, then who will ?

Using social media, you can reach out to the millions of Indian patients who are online. This is great opportunity for young doctors who are starting practice ! You are much more computer-literate, and your website can help you to yourself from senior doctors who are more established (but are computer-phobic).

The future of medical care is e-healthcare, with the promise of online medical records, online pharmacies, telemedicine, patient education, and an ever-expanding list of exciting opportunities. The opportunity to help our patients navigate the wealth of information on the World Wide Web and better educate themselves is now in our hands. We owe it to ourselves and our patients to meet the challenge that lies before us all ! (And if you don’t, your friendly competitor down the road will do so, and will take away all your patients !)

Day-Care Laparoscopic Cholecystectomy: A Review.

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ABSTRACT

AIM: Ambulatory laparoscopic cholecystectomy for Gall stone disease and other benign gall bladder pathology has been developed in order to increase patients' satisfaction and to save bed costs. The aim of this systematic review was to assess the advantages and disadvantages of ambulatory surgery in patients undergoing elective laparoscopic cholecystectomy,

METHODS: The author independently searched and identified 14 prospective or retrospective, randomized and nonrandomized studies dealing with day care laparoscopic surgery in PubMed and Medline databases between January 2001 and September 2011. Outcomes were postoperative morbidity, conversion and reoperation rates, mean operative time, hospital admission or readmission, and patient satisfaction

RESULTS: A total of 1459 adult patients underwent laparoscopic cholecystectomy as day case. The procedure appears feasible for selected patients, and it has a very low mortality rate and conversion, reoperation, hospital readmission and overall morbidity rate.

CONCLUSION: The data available to date in the literature, suggest that laparoscopic cholecystectomy is safe and feasible in a day-surgery setting, subject to careful patient selection and surgeon expertise.

Cholecystectomy is the recommended treatment for symptomatic gallstones. Open cholecystectomy has been superseded by the laparoscopic approach. This transition to laparoscopic cholecystectomy began in 1987. Soon after the introduction and acceptance of this technique as a "gold standard" for the treatment of gallstones, it was attempted as an outpatient procedure with promising results. Initially, the outpatient procedure was performed in the United States, but later its feasibility and safety was recognized in other parts of the world.

This review aims to examine the benefits of performing day-care laparoscopic cholecystectomy in terms of clinical outcomes such as morbidity, mortality, hospital admissions, readmissions, operative time, and conversion to open procedure, reoperations and patient satisfaction.

Patients and Methods:

A Medline, Embase, and Cochrane search was performed using the keywords "ambulatory," "laparoscopic," and "cholecystectomy." Only articles in the English language were considered. The author searched references manually for additional publications related to the topic. Any study that looked into outcomes such as morbidity, mortality, hospital admissions, readmissions, operative time, and conversions to open procedure, reoperations and patient satisfaction for ambulatory laparoscopic cholecystectomy

was considered for inclusion in the study. Publications with well-defined selection criteria for ambulatory surgery were included. Controlled trials without randomization and descriptive case series were also included. Publications comparing variables such as postoperative nausea, vomiting, analgesia, and other anesthetic considerations were excluded. The initial database search identified 45 publications, out of which 14 were selected.

Results:

A total of 2779 adult patients underwent day-case laparoscopic cholecystectomy as reported in 14 original publications. All study results are presented in **Table 1**.

Almost all articles agreed that selection criteria are mandatory to obtain the most from a day-care laparoscopic surgery program. The main inclusion criteria for a day-case laparoscopic cholecystectomy reported were an ASA grade I or II, stable ASA III (adequate therapy and no interference of surgery on the underlying disease and/or its treatment), patients living nearby the hospital (within 50kms) or a hotel near the hospital, availability of a responsible adult for the first postoperative night, fully motivated and informed patients with a frequently required written consent, patients under the care of a general practitioner, and telephonic accessibility.

The exclusion criteria specified were an American Society

Table 1: Studies dealing with Day-care Lap. Chole.

Author	No. of patients	Morbidity (%)	Conversion (%)	Reoperation (%)	Mean operative time (minutes)	Hospital Admission (%)	Hospital Readmission (%)	Pa Sa
Young ¹	14	0	NA	NA	NA	NA	0	88
Curet ²	43	9.3	NA	NA	65/67	NA	0	N/
Lau ³	200	3	0	0	56	4.5	3	N/
Vuilleumier ⁴	136	0	0	0	58	2	0	97
Sharma ⁵	42	2.3	NA	NA	48/68	NA	4.7	88
Jain ⁶	269	1	1	0	41/47	5	2	88
Chauhan ⁷	287	3.4	NA	NA	NA	NA	2.9	N/
Liedt ⁸	504	11.6	0.39	0.19	46.4	0.99	1.2	N/
Sherigar ⁹	198	5.05	1.5	1.01	NA	15	3.5	N/
Johansson ¹⁰	44	7.6	NA	NA	NA	NA	0	N/
Proske ¹¹	211	1.8	0	0	86	18	0	NI
Bonal ¹²	250	1.6	0.4	0	56	8	0	95
Kow ¹³	405	10.12	10.12	0	91	16.3	0	NI
Psaila ¹⁴	176	5.68	1.7	0.56	64	14	3.97	NI

of Anesthesiology (ASA) score of IV, coagulopathy or anti-coagulant treatment, home address more than 50km from the hospital, and the absence of an adult willing to accompany them home and to stay with them overnight.

All patients were admitted on the day of operation after an overnight fast. The procedures were usually scheduled in the morning session of the operation list. Most of the studies performed laparoscopic cholecystectomies using a standard 4-port technique, under general anaesthesia.

Perioperative medical specifications

The anesthesia protocol was adapted to ambulatory surgery, notably by avoiding peri- and postoperative opioids and by favoring nonsteroidal anti-inflammatory drugs. Administration of a local anaesthetic in the subphrenic, subhepatic region or gallbladder fossa was proposed in five papers^{4, 7, 8, 11, 14} or at the openings of the port sites^{3, 4, 6, 9, 12, 13, 14}. Prevention of pain and nausea and vomiting was done during and after the surgery. Food was reintroduced in either liquid or mixed form or sometimes even normal food was introduced, before discharge.

The patients were contacted the evening of the surgery or the day after by telephone, and often had early check-ups between postoperative days 1 and 30. In some cases, a nurse visited the patient at his/her home the day after surgery.

Hospital Admission

The rates of hospital admission on the same day were between 0 and 18%. The usual causes of an unscheduled admission were postoperative nausea and vomiting, uncontrolled pain, urinary retention, patient preference, for medical observation when the surgery was performed in the later part of the day or for conversion. Other rarer causes were intraoperative pneumothorax secondary to perforation of diaphragm⁸, congestive cardiac failure, schizophrenic psychosis⁸. Conversion from a closed to an open procedure systematically led to hospitalization longer than 24 hours. The failure rate was elevated when patients were not the first scheduled surgery of the day. The majority of patients admitted the same evening in day-case surgery left the next day before the 24th hour, meeting the definition of outpatient surgery (hospital stay <24 h).

Hospital readmission

The rates of hospital readmission after discharge were between 0 and 4.7%. The most frequently reported causes were pain, nausea and vomiting, wound related problems and occasionally severe complications, including acute biliary pancreatitis³, intestinal obstruction⁸, hepatic subcapsular hematoma³, leaking cystic artery pseudoaneurysm⁹ and biliary peritonitis^{3, 14} were observed.

Complications

There was one death and it was not linked to the ambulatory nature of management. It occurred few weeks after the surgery due to multiple organ failure secondary to severe necrotizing pancreatitis¹³. The morbidity rate varied between 0 and 11.6%. The commonest postoperative complications were retained common bile duct stones, wound related complications, intraoperative bleeding and bile leak secondary to bile duct injury or leak from cystic duct stump. The rates of conversion and reoperation were from 0 to 10.12% and from 0 to 1.01%.

The duration of the operation ranged between 41 and 91 minutes.

Evaluation of the ambulatory management by the patient

Quality of life after ambulatory and inpatient laparoscopic cholecystectomy was assessed 24 h and 1 week after the surgery by means of questionnaires and scoring systems in five papers. The satisfaction rate among patients was between 86% and 97%. When asked for their preference in the case of a hypothetical situation of having the same procedure again, 12.2–17.5% of patients preferred a short hospital stay

Discussion:

Over the past decades, day-case surgery has been developed in many countries to increase patient satisfaction and reduce hospital costs. This has happened for many reasons, including improved surgical instruments and expertise, less invasive surgical procedures, improvements in anesthesia and pain control, and the necessity to reduce both healthcare costs and the waiting list¹⁵. Implementing a day surgery practice is a special challenge for the modern medical organization. To meet this challenge, it is key to develop an integrated-care model aimed at minimizing cost, minimizing the discomfort of surgery, and ensuring safety throughout the procedure. Patient and procedure selection are mandatory in order to develop an efficient day-case program. Laparoscopic surgery, thanks to its reduced trauma and invasiveness, seems to be the ideal technique to get the most from an outpatient procedure.

Ambulatory laparoscopic cholecystectomy was first reported by Reddick and Olsen in 1990¹⁶. After emerging as a possible alternative to inpatient procedure more than two decades ago, ambulatory laparoscopic cholecystectomy was widely practiced by surgeons and accepted by patients alike. A rising trend in laparoscopic cholecystectomy performed on a day case basis has been observed in the recent past¹⁷.

The preoperative visit is of paramount importance. Patients tend to feel more secure if examined by experienced physicians, ideally those who will be present in the operating

ater. It also reduces errors in patient selection that may lead to cancellations or unplanned hospitalizations. The operations should be performed, or directly supervised, by fully trained surgeons and anesthesiologists.

A crucial aspect in the development of the ambulatory surgery program is the criteria for patient selection. Unplanned admission after outpatient surgery is an indicator of quality assurance¹⁸, as it might represent the existence of inadequate criteria in the selection of patients who given their characteristics, precedents, or preoperative findings were not candidates to this type of surgery. Some authors have come to the conclusion that patients most likely to fulfill the criteria of outpatient LC are those who have an anesthetic preoperative classification of ASA I or II, with no previous abdominal surgery, no history of acute cholecystitis episodes, and procedure duration shorter than 90 minutes^{16, 19, 20}.

Length of operation has been shown to be the most important predictive factor for unplanned admission after ambulatory laparoscopic cholecystectomy^{21, 22}. In the study performed at a major teaching hospital, where surgical training was an integral part of patient care, virtually all operations were performed by surgical residents under attending supervision³. This suggests that ambulatory laparoscopic cholecystectomy can be an integral part of the training program for surgical residents without compromising patient care and outcome. Some studies^{23, 24, 6, 3} point out a significant correlation between length of operation and admission rate. Others²⁵ state that duration of operation is not a contraindication to same day discharge. Jain et al⁶ found that total operating time was significantly longer for supervised higher surgical trainees when compared with consultants. However, there was no significant difference between the grade of operating surgeon and outcome in terms of postoperative pain and nausea scores, hospital admission, and patient satisfaction.

Inadequate pain control after surgery has always been a hurdle in the early discharge of patients and often is a cause of unplanned admissions in the ambulatory setting²⁶. Different pain management options ranging from single to multimodality treatments have been undertaken²⁷⁻²⁹. Along with other measures, intraperitoneal infusion of local anesthetics into the gallbladder bed is reported to be a reasonable option for postoperative pain control^{30, 31}. In addition to the usual analgesia protocols, simple methods such as infiltration of local anesthetic into the port sites have been used to reduce the postoperative pain^{2, 5, 10, 32}. Infusion of intraperitoneal saline followed by postdrainage suctioning has been shown to significantly reduce postoperative pain³³ and irrigation of both hemidiaphragms has been effective in reducing shoulder pain³⁴. Adequate pain control is considered to be the key to successful ambulatory surgery because it helps in early mobilization and quick return to normal activities. Vullieumier et al⁴ quote discharge criteria by the acronym AAAAM: awake, analgesia, ambulating,

alimentation, micturition.

Retained stones have been the most frequently reported morbidity after laparoscopic cholecystectomy^{35, 36}. Early follow-up within a week has been suggested as a measure to detect early postoperative complication and avoid delayed treatment³⁷. Retained stones could possibly be surgically acquired. Small stones could move from the patent cystic duct into common bile duct during dissection of the Calot's triangle. Because such stones may be spontaneously passed without symptoms, it would be difficult to ascertain their true incidence.

Individualization is essential for the preoperative management of ambulatory LC. The breaking of the cultural, habitual schedule of a surgical procedure requires strong collaboration between anesthetic and surgical teams, which eliminates the previous prejudices of the patient at the time of accepting this change, in contrast to this cultural pre-established concept. Therefore, suitable preoperative information is vital for the patient's acceptance of ambulatorization in order to diminish anxiety, facilitate recovery, and diminish hospital stay³⁸.

Finally, the learning curve for the technique also represents an important factor in the management of ambulatory LC³⁹. There is some evidence concerning the learning curve for LC. It has been reported that the frequency of complications, duration of hospital stay, and operating time for LC are reduced beyond the first 25 cases⁴⁰. After 35 cases the operating time may significantly decrease for some surgeons but not others, reflecting variability in the ability to acquire skills⁴¹. There is a reported 40% reduction in operation time for LC after 200 operations⁴².

Outpatient laparoscopic cholecystectomy has been demonstrated to be safe even for older and high risk (ASA grade III) patients undergoing elective operations and should be considered for day-care management in the future⁴³.

Patient satisfaction is an integral factor on which the transition to ambulatory laparoscopic cholecystectomy depends. Studies have demonstrated a high level of patient acceptance for day care laparoscopic cholecystectomy⁴⁴⁻⁴⁷.

In conclusion, I think that day care laparoscopic cholecystectomy is safe and feasible for the patient, and probably represents a better-quality process and the "gold standard" technique for cholecystectomy.

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Ambulatory Anesthesia as a sub speciality.

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Introduction:

Ambulatory surgery dates back to the beginning of the 19th century. James Nicoll documented the successful administration of 8,988 ambulatory anesthetics in England in a 10-year period from 1899 to 1908. In 1918 Ralph Waters opened a dedicated outpatient facility in Sioux City, Iowa. However, the successes of anaesthesia and surgery led to a greater trend toward hospitalization, rather than ambulatory surgery. There was little organized effort to pursue outpatient surgery and anaesthesia until the 1960s. In 1962, the University of California, Los Angeles, opened an outpatient surgical clinic within the hospital. In 1966, George Washington University Hospital opened its ambulatory surgical facility, and in 1970, Reed and Ford opened the Surgicenter in Phoenix, Arizona, the first stand alone ambulatory surgery centre (ASC). Freestanding ASCs grew from 459 in 1985 to 5174 in 2008. In 1984, the Society for Ambulatory Anaesthesia (SAMBA) was organized as the first and only specialty society within the American Society of Anaesthesiologists dedicated to ambulatory anesthesia.

Growth of Ambulatory Care:

The growth of ambulatory surgery can be attributed to pharmacologic and technical advances in anesthesia, and major technical advances in surgical procedures. Propofol as a drug probably has had the most significant impact on ambulatory anesthesia. The goals of ambulatory anesthesia are optimum pain control and control of post operative nausea and vomiting. The practice of regional anesthesia has played an invaluable role in ambulatory surgery. The use of ultrasound for performing nerve blocks makes it more safe and reliable, and it avoids usage of opioids.

The increasing number and complexity of surgeries being performed as day care has presented anesthesia practitioners with new challenges with respect to pain management. Peri-operative analgesic technique should be effective, safe, have minimal side effects and easily manageable by the patient.

Managing Ambulatory centres

The management of ambulatory surgical centres has become a sophisticated science and business. Advances in anaesthesia and surgical technology continue to be seen. The growth of imaging techniques and the need for sedation and anaesthesia for procedures that utilise these sophisticated imaging systems, have both become an important part of ambulatory anaesthesia. At the same time, patients have fuelled this demand for sedation during procedures that are either mild to moderately uncomfortable, or which take hours to perform. Recently, surgeries and procedures have started to move out of the ambulatory surgery centre and into the physician office. This presents a new challenge to the provision of safe anaesthetic care.

India has a population of more than 1 billion. There is a lot of scope of popularising the concept of ambulatory surgery here. Anaesthesiologists are the leads and can design, plan and run stand alone ambulatory centres very efficiently. We can bring down the cost and increase efficiency and patient satisfaction.

Transition from Inpatient to Ambulatory center

There have been several drivers that have facilitated this conversion from inpatient to outpatient surgery. Probably the most significant of these drivers has been a combination of economic advantages coupled with improved quality of care and patient satisfaction that ambulatory surgery provided. Several studies have compared procedures (such as simple cataract extraction and cholecystectomy) done in a hospital with those done in standalone day surgery centres. All demonstrated little difference in adverse outcomes (largely a lower rate of infection in a standalone unit) with greater patient satisfaction. Enhanced patient satisfaction was improved by the far better efficiency obtained in a standalone centre. This greater efficiency also was important in driving down the cost of care. This site of service differential has become the norm for private and government insurers, thereby solidifying the role of ambulatory surgery.

As rapidly as the practice of anesthesia has changed to enhance ambulatory surgery, so has technology within surgery. Endoscopic equipment advances have almost paralleled the growth in ambulatory surgical volume. Advances in imaging, catheters, and minimally invasive techniques have combined to move procedures that were done in a hospital setting followed by days of recovery in a hospital bed to an ambulatory environment with recovery at home.

Patient and ambulatory care

With the increasing move to ambulatory surgery, patients have to be seen by an anesthesia provider within a week before the surgery, so that patient's anxiety is alleviated. Improved communication enhances patient's understanding about the day care process and preparation required from patient's end, making him involved in his care. Patient's care givers are appraised about the post operative care and follow up care. Surgeon, Anesthesiologist and Nursing staff members along with administrative and Insurance staffs are in constant touch with the patient to play their role in comprehensive patient care.

Pre Anesthesia Check in Ambulatory center

Patients who were to be admitted to the ambulatory hospital for surgery were admitted on the morning of surgery. This led to the need for an alternative method of seeing patients and optimizing them before surgery and anesthesia. The preoperative clinic was established to accommodate this role. As preoperative clinics evolved, the question of what preoperative work-up was really needed began to be asked. Incorporated in this question was who needed to be seen and what preoperative testing was appropriate. Several articles appeared demonstrating that patients received excessive preoperative testing and that for some procedures (eg, lens extraction), no testing, even in the sickest of patients, is required. How much testing for ambulatory patients is needed is not yet fully resolved. Dr Richman provides the most recent evidence available to answer this question.

As time passes, old diseases become more prominent as knowledge of their cause and impact becomes more evident. A classic example of this is obstructive sleep apnea (OSA). The publication of the American Society of Anesthesiologists

guidelines on the management of OSA generated much concern and consternation as to how these patients were to be evaluated preoperatively and how they were to be managed intraoperatively. This stimulated increasing research in this area. Frances Chung and her group in Toronto have published extensively and contributed significant new information on OSA and anesthesia.

Need for Ambulatory Anesthesia Forum

Under such scenario developing around the world, the need for an Anesthesiologists forum is felt. The goals of the Indian Society of Ambulatory Anesthesia (INSAAN)

- To develop guidelines suiting Indian conditions
- To promote ambulatory anesthesia as a sub speciality in all ambulatory venues.
- To encourage education and research in the field of ambulatory anesthesia.
- To provide professional guidance for the practice of ambulatory anesthesia.
- To represent various problems faced by ambulatory centers.

What is the relevance of Ambulatory anesthesia in India?

The Indian Society for Ambulatory Anesthesia (INSAAN) would strive to keep the medical profession and the public informed about the role of anesthesiologists in the perioperative care of patients undergoing ambulatory surgery. The Society will aim to establish guidelines in ambulatory anesthesia and support programs and efforts in ambulatory anesthesia care. Education stands in the forefront of the Society's mission and will involve eminent Anesthesiologists across the country to share their experience and guide the society. As an independent forum, INSAAN will voice the concerns and problems faced by practising anaesthesiologists with day care as a major part of their day's work.

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Accreditation and Quality Issues in Day Surgery.

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Abstract:

Maintaining a uniformity in treatment and the surgery centre is as important to Day Surgery as it is to maintain high quality at affordable cost.

In a facility, where there are multiple surgeons and specialist utilising the OT, catering to all and maintaining a standard of equipment, type of sterilisation process, material used for surgery and anaesthesia, training of staff in the OT, all play an important role in the successful Day Surgery Centre.

ISO 9001-2008, QCI, NABH are some of the standardising organisation, well known to us. Indigenous board for local Day Surgery Units are what we need, which are affordable and not impossible to have, creating a uniform quality and accreditation. They go hand in hand.

Introduction:

Health care is now a service oriented Industry. Which means, not only the expectations of the patients are increasing, concurrent cost of treatment is equally on the rise.

Larger hospitals, though expensive, are able to maintain high standards by utilising the income from patient care. This is not usually possible for smaller nursing home and centres. Maintaining quality of a nursing home, comparable to a hospital is difficult.

But, even though the patient is looking for a convenient and affordable care, they do demand quality and standardisations, not only in treatment, but also in their surroundings.

If nursing homes could somehow attain high standards, without increasing patient treatment cost, then, their demand would increase.

It is often seen, that, the management of a Nursing home or a Centre, is willing to set standards for their day to day work, but are unable to do so. They do not know how to go about it, or are afraid of the extra work and extra cost that will be incurred for consultation and processes.

Why do you need it?

Whenever there is an establishment providing service, it will flourish only if there is a smooth running of the systems on a daily basis, with least of confusion. Our Surgery centres and

Nursing homes are basically service centres, like any commodity. When we have a patient who comes in for a particular treatment, we go through the process of consultation, examination, diagnosis, investigation, re-confirm diagnosis, surgery and post op care. We, doctors are trained for it.

Our support system, the receptionist, the back office, our nurses, ward boys and aaya bais' are not. Our purchase department and administration is a system into itself. From a small purchase of gauze to an anaesthesia machine, is a process in itself. The market is full of varied options, catering to your budget. We all need to have some standard quality stuff that we can purchase without hesitation. Responsibility is given to an individual for a particular job and is expected to follow a set system.

Quality issues of any enterprise is a responsibility, which can make or break the successful functioning of the centre. If the overall working of the center is effected, then it directly reflects lack of quality. Therefore, it is very important to recognize the areas of potential problems and deal with them effectively. So, think, what can go wrong, where and when to intervene.

The municipal government of a city has set some standards for maintaining certain level of quality and uniformity while setting up a center/nursing home. For example, as most of the nursing homes are situated in residential buildings, there is certain amount of inconvenience to the other residents. Therefore, separate entrance to the Nursing home is

necessary. Issue of bio-waste and drainage has to be tackled, fire safety norms have to be in place, qualified medical personnel with nursing staff has now become a quality issue.

The basic aim of any health care management system is to expose or sensitize the healthcare workers towards the need of the patient and to provide quality care to the patient.

Who are doing Quality control and Accreditation?

International Standards Organisation-ISO 9001-2008, is well known to all of us. This is a Quality management system, which allows us to create and maintain standards set by ourselves. With your help, they create SOP's (Standard Operative Procedures) which are easy to follow. Extensive record keeping and maintaining registers and entries for every purchase and repair done in the Nursing home is documented meticulously. This is a set pattern which is easy to follow by everyone. These are not very exhaustive and do not include your accounting system, there are several other software for that purpose.

Quality Council of India, is a government body, which maintains quality of every product. Forum for Enhancement of Quality in Healthcare, is a private body, with the help of medical consultants, have created standards to your capability. With a self-assessment form and a book-let, they help you achieve Minimum, Optimum and Excellent standards at you centre.

NABH-National Accreditation Board for Hospitals and Health care providers, have standards and quality systems for larger hospitals, smallest being 20 beds. But, they are in the process of creating processes for smaller set up too.

Internationally, there are several organisations, mostly based in USA, like the JCI-Joint Commission International, AAAHC- Accreditation Association for Ambulatory Health Care and AAAASF-The American Association for Accreditation of Ambulatory Surgery Facility, are expensive and increase the overall cost of your set-up's budget.

What are Quality issues?

To my mind, the basic Quality issues start right from the time the patient enters the Centre for admission. How is he greeted? Who meets him first? Are they knowledgeable? Trained? Who is the first face of your set-up? Receptionist/

Nurse/Aaya bai/Ward boy or watchman? We always have used the phrase 'First impression is the best impression' right from our child hood. Do we really mean it? If any or all of the above personnel are your face of the centre, then we would want all of them to impress our patient. This is where Quality starts.

From here, we move on to the reception, registration counter, is our process of admission is smooth and hassle free? Does the patient have to wait for ever? Then we move into the ward, the décor is not important as is the neatness and cleanliness. Is your staff friendly and smiling? These are the qualities a patient and their tense relatives will look for.

Efficiency of the staff and the equipment in the OT is not seen by anyone outside, but, a well-coordinated OT staff will ensure smooth and quick transition between patients minimising delay in between cases and without appearing to be in a great hurry. This is another Quality issue.

OT staff and medical personnel can increase patient safety and efficiency by adopting a concept of 'Time out'. Here, sufficient time is taken in between so that everyone can take a deep breath. This has been shown to improve the quality and efficiency of the OT staff, world over.

If the overall working of the center is effected, then it directly reflects lack of quality. Therefore, it is very important to recognize the areas of potential problems and deal with them effectively. So, think, what can go wrong, where and when to intervene.

Therefore, Quality of treatment does not depend only on the surgeon's skill, but, on the whole team.

Once a problem or problem area is identified, then it is easy to find a solution. Anticipation and awareness is of importance. The demand and desire to stick to a certain grade of quality has to come from the boss.

In conclusion:

The Indian Association of Day Surgery is in the process of setting up our own quality control and accreditation body by the name of: ABCD-Accreditation Board for Certification of Day Surgery Centres. They aim to help interested parties get ISO and then Quality Council Certification to provide Accreditation to the centre so that you can provide Quality treatment to your patients.

Day Care Surgery: 5 years analysis.

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Abstract:

Over a period of 5 years, from July 2008 to June 2013, all surgical procedures performed at our Day Surgery center were compiled and analyzed. This was a prospective study with retrospective analysis, involving 5796 cases. Protocols and guidelines laid down by the Indian Association of Day Surgery were extensively used for Patient selection, Preparation and Discharge. Cases were divided into OPD: 1001 cases (17.27%), Day Case: 2580 cases (44.51%) and Extended stay (upto 48 hrs.): 2215 cases (38.21%). On specialty wise distribution, it was found that General surgical case were the top utilizer of Day Surgery, closely followed by Gynaecology. A year-wise break up since 2008, revealed a steady increase in the number of procedures at our Centre. Surgical complications, leading to re-admission of the patient, was zero. We concluded that, proper utilization of resources and Protocols, is the key for a successful outcome in Day Surgery Cases.

Introduction:

One Day Surgery Centre is the first multi-specialty, stand-alone center. Day Care Surgery, as the concept is known in India, is now an established norm of treating, select, planned procedures, which do not require extensive monitoring and hospital stay. Therefore, as a definition, Day Care surgery in one wherein, the patient can be discharged on the same day of surgery or invasive procedure. (1) These exclude minor procedures and Endoscopies performed for the purpose of diagnosis only.

However, it would be appropriate to add, that, a true Day Case patient, is one, who is admitted for an operation on a planned non-resident basis and who nonetheless requires facilities for recovery. The whole procedure should not require an overnight stay in a hospital bed. (2)

The Indian Association of Day Surgery, has proposed a clear set of Protocols, to be followed, which is meticulously used at the Centre, for Case selection, Preparation, Discharge and follow-up. (3)

Reimbursement for medical care in our country is mostly out-of-pocket. Being one of the most privatized health care systems in the world, almost 85% of our patients do not have any type of medical insurance. Keeping this aspect in mind, our Centre works by creating packages of common procedures, which are economically priced, making these surgeries more affordable.

As post procedure observation is necessary for a period of 4 to 10 hours, we have common as well as private rooms as is mandatory for the patients. In addition, if an overnight stay

is deemed necessary at the end of the day, then, the patient can be looked after in the same recovery room with the help of the night staff. The other vacant beds are readied for the next day, as per the operating list. An operation theater with standard and emergency equipment and medicine, is kept up to date at the end of every day.

Aim:

We propose a list of standard procedures, performed on a regular basis at our center, with the help of Protocols of safe practice in Day Surgery.

Material and Method:

Place of study: One Day Surgery Centre (Babulnath Hospital), Mumbai, India.

The patients analyzed were operated during the period from 1st July 2008 to 30th June 2013.

Total number of cases analyzed : 5796.

Cases were segregated as follows:

- 1) OPD (Minor) Procedures : 1001.
- 2) Day Care Surgeries : 2580.
- 3) Extended Stay : 2215.

Criteria were used for Case / Patient selection have been listed in **Table 1**. They helped us to decide those best suited for Day Surgery.

Absolute and relative contraindications are listed in **Table 2**. Cases / patients falling into these category were considered not suitable for Day Surgery.

Table 1:

S. No.	Criteria
1.	Medically fit.
2.	Well Motivated.
3.	Responsible person.
4.	Transport, Toilet, Telephone.

with a sip of water on the morning of surgery.

Anaesthesia used:

Loco-regional Block anaesthesia was most commonly used. A combination of 2% Lignocaine HCl (with or without adrenaline), mixed in equal quantity of 0.5% Bupivacaine,

Table 2:

Absolute Contraindications:	Relative Contraindications:
Medically unfit patients.	Obesity.
Suffering from Highly infectious diseases.	Babies younger than 6 months old.
Severe upper respiratory tract infection.	Long distance from home.
Premature babies.	
Requiring extensive post-operative monitoring.	
High fever.	
Mental retardation.	

Table 3:

Specialty	No. of cases
General Surgery	2233
Plastic Surgery	744
Urology	426
ENT surgery	233
Gynaecology	1586
Paed. Surgery	458
Ortho./Oncology	116

was used in all patients. Block were administered by the surgeons in most of the cases.

History of sensitivity to local anaesthesia is taken prior to surgery. Earlier procedures, like dental extraction, etc., helps during taking history, to know about the sensitivity. On-table sensitivity test is done in all patients.

To cover the pain while infiltrating the block, sedation in the form of Midazolam: 1-2 mg, Pentazocine: 15-30 mg, have been used in almost all of our patients. Children requiring surgery in Day care set up do extremely well with an induction dose of ketamine of 2-6 mg / kg body weight, given intramuscularly.(4)

Table 3 has break up of major specialities. General Surgery cases where the highest, followed by Gynaecology, Plastic surgery was third most numbers performing Day Care Surgery.

Local or Regional blocks commonly used by us:

At the first consultation, while preparing the patient, counseling was an integral part. Here, after diagnosis and establishing the fact that surgery is necessary, preparation of the patient included certain investigation, such as: Haemogram, Blood sugar levels, HIV, HBsAg, Urine (Routine), Stool, X-ray Chest, Ultra-sonography of abdomen / pelvis, if indicated.

- Field block: Lipoma, Sebaceous cyst, Umbilical hernia, Incisional hernia, Carbuncle, Breast lump, etc.
- Ring block: Nail excision, Pyronychia drainage, Circumcision, etc.
- Cord / Scrotal block: Hydrocele, Vasectomy, etc.
- Inguinal block: Hernia, High ligation for varicocele, etc.
- Pudendal block: Piles ex., Fissurectomy, Fistulectomy, Anal dilatation, etc.
- Coastal block: Epigastric hernia, Incisional hernia, etc.
- Short General anaesthesia: (in the form of Halothane and Nitrous-Oxide): D & C, Cystoscopy, Lap. TL, etc. .

An additional consultation with the Physician and / or anesthesiologist, was given to select cases as indicated.

Procedure:

Pre op instruction included overnight fasting, bowel preparation, whenever necessary, were given orally as well as written down.

Preference is to use a 27 G 1 & ½ inch long needle to infiltrate the local anaesthesia. As the patient is sedated, the perception of pain is lessened considerably.

Bowel preparation was given to all patients undergoing anal procedures, in the form of laxatives, intestinal lavage and / or enemas, on the night before and / or on the day of procedure.

Once the local has acted, there is no pain during the surgery. Post-procedure recovery, in the form of drowsiness is dose related, therefore, requiring a few hours of observation.

Pre-operative medications: all blood thinner are stopped 3 days prior to surgery, anti-hypertensive medications are given

Skin crease incision is taken wherever possible, minimal dissection, sub-cuticular closure performed with fine absorbable suture material.

Patient is almost immediately mobilized; oral liquids are started within half to two hours, depending on the sedation given.

Patient is sent home after an average stay of 8 hours, once we are sure that the patient fulfils the Criteria's for discharging the patient. Verbal and written instructions are given to the patient and attendant. Discharge file includes Post-procedural instructions along with all the contact numbers of our team of doctors.

Patient is called for follow-up next day or after 48 hours.

Criteria for discharge:

A fully conscious and Haemodynamically stable patient, with no giddiness on standing, able to walk without support, tolerating oral feeds, no or minimal pain, passed urine, responsible person is present to take the patient home and there are no post-procedural complications, is essential requirement for same day discharge.

Discharge file given to the patient contains instruction on medication, wound care, post-procedural instructions, including how to look for complications and manage them, most of all: contact numbers of all our team of doctors.

A visit from our team of doctors or a phone call is mandatory.

Complications:

Out of the 2580 patients who underwent Day Surgery procedures at our center, 2 patients stayed overnight, 1 due to PONV and 1 due to excessive sedation. No readmissions were noted.

Results:

Therefore, the overall complication rate at our centre was found to be: 0.03%; Complication in the Day Surgery group was: 0.07%.

Discussion:

Day Care Surgery is slowly becoming an established norm for certain planned surgeries in specialized centers in India too.

With the continued development of scientific knowledge and modern technology, the discipline of surgery expanded into many specialties and single-subject sub-specialty, to the betterment of patient care.(5)

These 'Bread & Butter' surgeries are the once that are extensively performed by most surgeons on a daily basis.

A general surgeon's regular OT list does not contain Hepatectomy, Colectomy, Parathyroidectomy and Pancreatectomy as part of the list of common surgical procedures. They are rare! Circumcision, incision and drainage of paronychia and scar revision are very common, and in fact perhaps more numerous than those listed above.(6)

Countries pioneering this concept, are utilizing Day Surgery for the benefit of millions of patients. In the United States, Ambulatory procedures have risen from 27.7 million cases in 1994 to more than 40 million cases this year.(7)

In our country too, in a study conducted in a government hospital, up to 50% of reduction in the cost of surgical care has been shown by the use of Day Care Surgery.(8)

Though less than 5% of our population is covered under medical insurance, there is an increase demand for reimbursement in larger cities. Insurance companies, disbursing claims for surgeries performed as Day Case, have done away with 24 hours admission, a policy decision taken by all the insurance companies together, will be a boost for One Day Surgeries.

Minor surgical procedure forms the bulk of all the cases, undergoing procedure at our centre, though they do not come under the category of 'True' Day Surgery cases, these are considered to be OPD cases, are included in the Day Care Surgery list as the precautions have to be taken same as that of Major cases and some of them do need a good amount of sedation, hence, 3 to 4 hours of post-operative recovery period.

Day Care surgery as a specialty is still in its infancy in India. Though, this concept is widely used, cases are mostly done as part of routine list, where the patients are hospitalised and have to undergo the same formality as for indoor patients.

Now, there are some large hospitals in metropolitan cities, which have incorporated a separate Day surgery unit along with the causality, but these are few in numbers.

Free standing centers, that is, Day Care Surgery Centers, run by individual specialists, like and Ophthalmic surgeon, ENT specialist or General Surgeon, are smaller in size as per the number of beds, to cater to a population of over a billion people. Also, they are very few in number; most of them are confined to the bigger cities.

Multispecialty, Stand alone, Day Surgery centers, are very few in numbers. Our centre is one of them.

There is a need for several dedicated day care centre with a

fully equipped operation theatre consisting of Anaesthetic apparatus, Pulse Oxymeter, Cardioscope, Electrocautry, Defibrillator, etc. Recovery area or rooms, where post operative care is given by trained staff, helping in patient's recuperation and handling of complications, is mandatory.

Training of Medical and Nursing staff, dedicated and well versed in the management of Day Care surgery patients for the efficient functioning of the centre.

“Convenience” is the key word to be kept in mind while setting up a Day Care Surgery centre. In the metropolitan cities, restriction of space makes you innovative. Here one tries to provide every necessary detail required in the minimum of space, without compromising on the quality.(9)

The first modern day unit was established in 1969, in Phoenix, Arizona, USA. The ‘Surgicenter’ was the prototype of a ‘free standing’ unit, on which are based all centers all over the USA.(10)

Advantages of Day Surgery are many, they are time tested and proven, over a period of time, in our practice, the once which we found to be of significance are briefly illustrated: A day procedure, which does not entail overnight admission, makes it look like a ‘Minor’ surgery to the patient, therefore, reduces the anxiety of surgery, which always makes its presence felt whenever a patient hears the word ‘Surgery’. Being a Day procedure, it reduces the hospital stay, thus reducing the chance of hospital acquired infection. Since most of the surgeries are done under regional or local anaesthesia, the side effects of general anaesthesia is considerably reduced, making it an ideal method of surgery in cases where general or spinal anaesthesia is to be avoided. Most of the patients have conscious sedation; their requirement for post-operative starvation is less. The recovery is faster and in familiar surroundings, which is very important for the recovery of patients of older age group and children. An early resumption of day to day activity along with the other benefit makes it cost effective, in the long run.

In a busy hospital set up with limited beds, Day procedures help in making indoor beds free, for the admission of other patients who need to be hospitalised. Similarly, a separate Day Surgery theatre will reduce the wait list and overload of any regular theatre complex.

Disadvantages of Day Surgery practice, on the other hand, certain points to be kept in mind, which can be considered as: The patient is given instructions with regards to pre-operative preparation, such as, bowel preparation, overnight fasting, anti-hypertension medication, etc., which either they fail to take or take incompletely, resulting in poor bowel preparation or delay in surgery. This is avoided if instructions are written down and repeated verbally to the patient and

attendant.

Operative position like Jack-knife, Lithotomy or Supine position, may be found to be uncomfortable as most of the day procedures are performed under Local anaesthesia or Conscious sedation.

Failure of local blocks, due to technical reasons, can lead to substitution of deeper form of anaesthesia, leading in the delay of patient's recovery.

Since the concept of Day surgery is not well known, the idea of being discharged on the same day of surgery, does not go down too well with most of the apprehensive patients, therefore, some of them may refuse to being discharged on the same day.

Lack of facilities at home, in the form of absence of a responsible person to take care of the patient, remote areas which do not have accesses to medical facilities in case of any complication, would also not be fit for day procedure of the major type, and hence is considered as a disadvantage.

Patient selection criteria: which we used for the Day surgery at our centre, helped us in proper safeguard of the patients, to discuss them:

We chose medically fit / stable patients; falling within the recommendation of American Society of Anaesthesia I, II, and III (well controlled).

Our patients were well motivated for Day Surgery and psychologically / mentally stable.

Emphasis on the presence of responsible relation at home to take care of the patient, if needed, contact our team or bring the patient to us in case of any complications, was made.

We recommended for the convenience of the patient's post operative recovery, the facilities of toilet, transport and telephone, at or near the residence of the patient, so as to be able to recoup comfortably.

Absolute contraindication for Day Surgery, when we discussed, we kept in mind that:

Medically unfit; those patients who do not qualify within any of the ASA category.

Patients suffering from highly infectious diseases, which need isolation, are not ideal for recovery at home, if they are to be operated, then, they should be hospitalized.

Patients suffering from severe upper respiratory tract infection, which can lead to bronchospasm, needing medical support, are best treated as indoor cases.

Premature babies are prone to respiratory tract infection and dehydration.

Patients who are in shock due to the disease or trauma and requiring extensive post-operative monitoring, are not ideal candidate for Day Case procedures.

Even high fever, for any reason, needing to undergo surgery would require to be hospitalized for observation.

Lastly, patients having mental retardation, as they are in no position to look after them, hence needs supervision, should not be operated as day case.

Relative contraindications are subject to cases selection and surgeon's discretion is mandatory in such cases, depending on type of surgical or invasive procedure these patients have to undergo Day Surgery, are:

Obesity, as they requirement of anaesthesia will be more and surgery will be technically difficult due to the presence of excessive sub-cutaneous fatty tissue.

Babies younger than 6 months of age are at risk of upper respiratory tract infection and dehydration is high in these cases.

Long distance from home, if patient have to travel long distances to their residences after the procedure, there is a possibility of increasing their morbidity due to the travel.

Procedure: the most important aspect of a Day Surgical procedure is the anaesthesia part. In our practice, the combination of 2% Lignocaine HCL and 0.5% Bupivacaine, have found to give the advantage of immediate and prolonged anaesthesia at the site of surgery. Lignocaine acts almost immediately, but wears off in 20-30 minutes, Bupivacaine, requires 20 minutes to show its effects, but lasts for almost 8 hours. Toxicity of the local anaesthesia is also avoided as the combination gives a diluted strength of 1 %.

One should keep in mind, the toxic dose of Lignocaine HCl with adrenaline is 7 mg/kg, and plain lignocaine has a maximum dosage of 3 mg/kg, whereas bupivacaine is 2 mg/kg body weight. For example, the usual amount of local anaesthesia required for one sided inguinal hernioplasty is about 30 ml of the combination, which is well within the toxicity dose. Though sensitivity to local anaesthesia used is very rare, as the most commonly used agents are Lignocaine and Bupivacaine, which are amides and less toxic than the ester derivatives (e.g. procaine, prilocaine).*(II)*

Conscious sedation is achieved by a combination of IV drugs, depending on the apprehension and the duration of the cases. At the time of initiating the local block, the patient is sedated with the help of Midazolam (1-2mg), along with Pentazocine (15-30mg) to give analgesia, deeper form of sedation if

required is achieved by Ketamine ranging from 10-50mg, bolus dose, as a single drug or in combination. (25mg of ketamine in bolus form, in an adult patient, gives conscious anaesthesia, whereas, 100mg is considered to be anaesthetic dose in an adult of 70 kg body weight).

The pain caused by the injection of local anaesthesia is taken care off by this sedation, making the patient virtually painless.

Though the patient is asleep, he can be aroused easily and a repair of hernia can be tested on table.

In cases of appendectomy, combination of oxygen-nitrous-oxide-halothane was used, in open cases, where spontaneous breathing has been maintained. In patients of Laparoscopic appendectomy, controlled breathing was achieved by intubation. Muscle relaxant was used in 2 cases only.

The use of IV sedation and anaesthetic drugs make it mandatory to observe the patient for at least 6 to 8 hours, therefore, these cases are preferably conducted in the morning as a first case so as to have enough time for post-operation observation.

Complication:

Reaction to local anaesthesia, though rare is a possibility one should keep in mind. Most commonly seen complications are giddiness, syncope, bradycardia, Nausea, Vomiting; Retention of urine is seen sometimes in male patients; severe pain at home, bleeding, hemorrhage and hematoma, during and after surgery, needing attention.

A home visit by one of our team doctors or a phone call is mandatory for every patient before the centre is closed for the night. However, the involvement of the referring physician of family physician is ideal for the post-operative care of the patient, till they come back to you for follow-up.

The reason for the trend towards increasing outpatient and office procedures are clear: lower cost, greater efficiency and improved patient convenience.

Accomplishing the procedures described in this issue safely, swiftly and successfully will serve legions of patients (and surgeons) well.*(12)*

Conclusion:

The results of the analysis of Day Case procedures at our centre were found to be: overall complication: 0.03%; Complication in the Major post-operative group was: 0.07%. This is very small, considering the nature of complications.

With proper cases selection and meticulous patient preparation, following the criteria's for discharge to its last word, will form the guidelines and practice parameters,

recommended by us, for the use of cases / procedures which were performed, and listed in the tables, by us, we hope to make Day Care Surgery a worthy modality for the future to come.

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Information to Contributors

Day Surgery Journal of India, publishes Original Articles, Case Reports, Reviews, New Surgical techniques, Letters to Editor, Research Papers etc., related to Day Surgery, in its broad term, manuscript submitted for publication, are to be accompanied with a letter stating the status of the manuscript, that is, the paper is / not Published or under publication or submitted for publication in any other journal. Articles based on papers presented at conferences should mention as such. Abstract / Papers are accepted subject to Editorial Boards preview. Papers published become the property of the journal under copy right and may be reproduced only with written Permission from the Editor and duly acknowledged.

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Title page: Title, names of author (s) with initials, Department(s) of origin, designation of the authors and address of author for correspondence and short title.

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Main text with subtitles: Introduction, Material & Methods, Results, Case Reports, Observations, Discussion, Summary, Conclusion.

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