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Contents:

	Editorial	4
1.	Ambulatory Proctology Surgery-an Indian experience. <i>Gupta Pravin.</i>	5
3.	Choice of Anesthesia for Day Care Surgery. Our experience over 10 years. <i>Chaudhary S., Begani M. M., Mulchandani D.</i>	10
4.	Patient flow management. <i>Mulchandani D.</i>	13
5.	Quality Issues and Accreditation in DSC in India <i>Row T. N.</i>	15
6.	Port site tuberculosis presenting after laparoscopic surgery report of two cases. <i>Rawlani S.</i>	20
7.	Information to Contributors.	23

EDITORIAL

As the years go by, we see a change in the types of articles being sent for publications to this Journal. As we all know, this is the only Day Surgery Journal in India. Though we publish only one issue per year, we will soon need more than that.

Proctology is the 'Bread & Butter' of a General Surgeon anywhere in the world, and to be able to perform this as Day Care, in a second tier city of India, is commendable. Dr. Pravin Gupta has concentrated on Colo-Proctology and used Radio Frequency method extensively. It goes to show, that, you can master one technique and make it a 'Gold standard' of your own, by continuously refining your methods.

Anaesthesia is the main stay for the success of Day Surgery, world over. With the advent of better available drugs, we are able to perform more and more cases, safely, as Day Case. Dr. Chaudhary, an Anaesthesiologist, has analyzed and published data from the Center where she works and the results speak for themselves.

We are slowly moving towards issues on improving the efficiency of every DSC. Time management and patient flow is important to the success of any DSC. Optimizations of these processes can be improved by reading Dr. Mulchandani's article.

In continuation with the improvement of the processes of a DSC and its efficacy, Quality control and requirement of Accreditation, which can be uniform and standardized, is the search of every Operative Manual. I have tried to make you aware of the choices and simplified the process of acquiring the necessary Accreditation.

Tubercular complications of a surgical wound is a well known entity. So, why should the Lap. Port sites be spared? Dr. Rawlani has found two such cases and shared with us this phenomenon, which we all should keep in mind when dealing with a wound that does not look right!

Happy reading!

- T. Naresh Row

Ambulatory Proctology Surgery-an Indian experience

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Objective: To evaluate the results of proctological surgeries carried out by us on an outpatient basis. Design: Retrospective study. Subject: 3256 patients with benign ano-rectal pathologies needing surgical intervention. Materials and methods- Patient demographics, type of anesthesia used, the type of operation and postoperative complications are described. Patient satisfaction was assessed independently after surgical procedure.

Results- Mean age of the patients was 37.5 years. 61% patients were male. There was no mortality. The mean duration of hospital stay was 8.4 hours [range 3-22 hours]. Complication rate was 2.9%. 81.4% patients were highly satisfied with the procedure.

Conclusion-Day care proctological procedures are a safe and effective way of reducing costs without increasing morbidity, mortality, and is acceptable to majority of patients.

Introduction:

Ambulatory surgery or day care surgery is a clinical admission for a surgical procedure, with discharge of the patient on the same working day.

Ambulatory surgery encompasses those surgical interventions that are more complex than office-based procedures performed under local anesthesia but less complex than major procedures requiring at least an overnight stay. (1)

The potential benefits of ambulatory surgery include more rapid return to the comforts of a home environment, diminished opportunities for nosocomial complications and diminished cost. (2)

Though increasing numbers of surgical procedures were performed as day cases, the colorectal surgical practice has been slow to embrace the concept because of perceived problems with post-operative pain management and bleeding. (3)

It was in 1973, that Rivkin published his paper on ambulatory proctology surgery. (4) The rediscovery, improvement and broadening of outpatient resources and utilities occurred during the last three decades, and now it has been estimated that 90% of ano-rectal cases may be suitable for ambulatory surgery. A wide variety of ano-rectal conditions including anal fissures, hemorrhoids, anal fistula, pilonidal sinus, condylomata, abscesses and other miscellaneous conditions have been shown to be amenable to surgery on an outpatient basis. (5)

Despite the social, economic and medical advantages reported by various authors, majority of surgeons are loath to utilize it, either because difficulty in ensuring adequate pain control, or for fear of postoperative complications. Many times patients themselves are reluctant to give consent for day care surgery for lack of knowledge about safety, feasibility and advantages of such surgeries. Other possible reason could be the lower payment made by the health insurance plan on an erroneous assumption that outpatient surgeries were minor and low risk procedures. (6,7,8)

In this paper we report results of our experience in surgery for various proctological pathologies conducted by us on an outpatient basis during the last 8 years. The purpose of this study was to assess patient's response to the ambulatory surgery dedicated to proctology.

Material & Methods:

We reviewed the records of all the patients who underwent anorectal procedures in our ambulatory unit between June 1997 and July 2005. Data was collected on age of patients, sex, associated illness, preoperative evaluation; type of anesthesia used and treatment provided.

The cases that were excluded from this study included minor procedures performed during consultation such as endoscopies, infra red or radiofrequency coagulation of hemorrhoids or their band ligations, evacuation of perianal

hematomas or hemorrhoidal thrombectomies, and all major procedures such as extensive rectal surgeries that required long hospital stay.

Patients who satisfied the following criteria were selected for outpatient proctology surgery (9)

1. Patients having good control on systemic diseases like hypertension, diabetes or ischemic heart disease.
2. Patients corresponding to ASA I and II levels. [ASA-American Society of Anesthesiology]. Medically stable ASA III patients following consultation with the anesthetist concerned.
3. Those who were on anticoagulant therapy on having discontinued the same a week prior to the procedure.
4. An informed willingness to undergo the procedure and an ability to faithfully follow post discharge instructions.
5. Patients accompanied by a responsible person to take him home and to attend on him at least for next 48 hours.
6. Assurance of active participation of family members in postoperative care.
7. Patients having easy access to toilet and telephone in the postoperative dwelling.
8. Availability of quick transport in case of emergency or complications.
9. The patients remaining within one-hour reach of appropriate medical help until the following morning after discharge.

Our protocol includes admission in the morning of the operation and preoperative evaluation by means of ECG, coagulation profile, and blood glucose estimation. The patient, prepared with a dose of Polyethylene glycol on the prior night, is taken in the operative room where a venous line is placed and the anesthesiologist proceeds to monitor his/her ECG, blood pressure and oximetry.

Most of our operations were performed using a short-term general anesthesia with muscle relaxants. Caudal block or spinal anesthesia was used for patients who were not found suitable for general anesthesia. Procedures like pilonidal sinus surgery, removal of condylomata were carried out using local anesthesia. (10)

The procedures were carried out after careful disinfection of the operative field. No intra-anal wound dressing was done except covering the external wounds by an absorbent pad. Patients were kept under observation in the ward for next few hours to contain vomiting, urinary retention, pain or post anesthesia events, if any.

The patients received a leaflet exhaustively detailing essential post-operative care along with dietary instructions and an elaborate prescription for sitzbath, dressing, application of ointments, analgesics, and laxatives. They were provided with a 24-hour telephone call facility to report any complication or address any query regarding postoperative care.

The patients were discharged home after applying the following criteria. (11)

1. Stable vital signs for at least 2 hours.
2. Adequate pain control.
3. Minimal nausea, vomiting or dizziness.
4. Correct orientation as to time, place and relevant people.
5. Adequate hydration.
6. Patients having significant risk of urinary retention after

having already passed urine.

7. The patients able to help themselves to the toilet and in dressing-up on their own.

Postoperative care- The patients were instructed to take a warm water sitzbath immediately after each defecation and again at bedtime. They were asked to apply a cream containing local anesthetics and antiseptics twice in a day and as and when they felt pain or passed stool. Systemic antibiotics were prescribed to patients who were operated for infective pathologies like anal fistula, abscess etc. Emphasis was placed on inducing an early bowel action and so a liberal use of fiber supplement and stool softeners was encouraged.

Control of post defecation pain is considered of vital importance in the domain of proctology practice. Patients were instructed to consume analgesics on s.o.s basis to contain pain. The analgesics routinely prescribed were Paracetamol, Tramadol HCl and Diclofenac sodium.

Follow-up- Patients were called in the office at 2 and 4 week post operation or earlier if needed. The follow-up was carried till the wounds healed completely. They were asked to rate the level of satisfaction as high, good or low at the last follow-up. The late follow-up was carried up to 2 years.

Statistical analysis- All patient's data was entered in to a database and statistical analysis was performed using statistical software (Graph pad Software, San Diego, CA).

Results:

The study included 3256 patients who underwent ambulatory ano-rectal surgery. The mean age of all the patients was 37.5 years [range 2- 64 years]. 61% patients were male with a mean age of 41 years [range 2-63 years]. The mean age of females was 38.5 years [range 9- 64 years]. As far ASA classification, 2485 patients presented with ASA level 1, while 739 patients presented with ASA level II and 32 patients as ASA level III. Table 1.

Level IV or V patients were not subjected to ambulatory surgery and were not included in our study. The type of anesthesia used in patients is described in Table 2.

The most frequent type of surgery performed was anal sphincterotomy for anal fissures while the next common surgical procedure was for removal of hemorrhoids. The list of procedures performed is given in Figure 1.

There was no mortality. The mean duration of hospital stay was 8.4 hours [range 3 22 hours]. There were no episodes of vomiting or nausea that prevented discharge.

Ninety-four (2.9%) of our patients had post-operative complications. Of this 78 were considered minor and only 16 had major complications that required hospital admission. Of the minor complications, urinary retention, perianal thrombosis and fecal impaction were the most common. Urinary retention was treated with urinary bladder drainage for one time. None of the patient needed a dwelling catheter. Fecal impaction was resolved by manual extraction in the office. The patients with perianal thrombosis were reassured and the thrombosis resolved by its own in two weeks. Table 3.

Of the 16 patients with major complications, nine patients returned with secondary bleeding. They were readmitted. While seven of them were resolved with conservative treatment in the form of local compression, hemostatic medication and rest, two needed examination under anesthesia with ligation of the vascular pedicle. None of these patients needed a blood transfusion.

Another five patients reported with septic complications leading to perianal abscess. Four of them had this complication after sphincterotomy for anal fissure and the fifth one was operated for hemorrhoids. These patients were treated with incision, drainage and antibiotics. They had uneventful recovery thereafter.

Two patients reported with rather unusual complications. One patient operated for hemorrhoids came with a history of loss of the plastic applicator in the rectum while applying anesthetic cream with it at home. The applicator was removed under anesthesia. Another patient came with severe perianal burns allegedly sustained during a warm water sitzbath. He was treated with local wound care and antibiotics.

Our study found no perceptible correlation between factors like the type of surgery, the postoperative visits by the patients, complications reported and the need for admission to the hospital by a few of them.

As regard satisfaction grading, 2651 (81.4%) patients were highly satisfied with the procedure, 579 (17.8%) patients rated the procedure as good while the remaining 26 patients were not satisfied with the procedure and its outcome.

Discussion:

A correct choice of patients suitable for outpatient treatment is of vital importance because enforcement of such treatment in patients who are suitable for inpatient treatment would compromise the method. (12)

For the success of surgical treatment of anorectal diseases it is necessary to be familiar with different surgical methods best suited for the individual patient. After examination, a surgeon may decide to choose either an optimal method or a combination of two, in order to achieve the best effect. (13)

The procedures suitable for day care surgery must entail- a minimal risk of postoperative airway compromise, postoperative pain controllable by outpatient management techniques, minimal risk of postoperative hemorrhage, no need of a specialized nursing requirement in the postoperative course, and a rapid return to normal fluid and food intake. (14)

A day care surgery offers many advantages over the indoor ones as the patient's life is only minimally disturbed with a diminished anxiety. The incidence of nosocomial infection is minimum. There is earlier return to normal activities and a reduced time off

work. The patient is usually more comfortable at home. The significant reduction in treatment costs and minimal pressure on hospital resources are the two major achievements of the day-care surgeries. (15)

The most challenging problem in ambulatory proctological surgery is postoperative pain. (16) This can be reduced by one or several of the following measures- Infiltration with long-acting anesthetic drugs after the end of the procedure, administration of non steroidal anti-inflammatory drugs preoperatively and oral administration of opioids.

In our practice, the operated area was infiltrated with 0.5% Bupivacaine. (17)

While most of the studies have shown that nearly all the ano-rectal procedures could be performed under local or loco-regional anesthesia like posterior perineal block or caudal block and a general anesthesia should be avoided to reduce bleeding risk and the occurrence of complications related to general anesthesia, we have used all the methods of anesthesia in our series. The dislike for general anesthesia may reflect differences in surgical culture and in our patients it caused minimal morbidity. (18)

Bleeding and pain are frequent complications, following proctological procedures. Their intensity however, can be influenced by the procedure and the experience of the surgeon. Through careful hemostasis and wound closure the risk of bleeding is greatly reduced. The intensity of pain experienced by the patient is very much personality dependent and is in general unpredictable. (19)

One of the common complications in our series was urinary retention. (20) The reasons for postoperative urinary retention are multiple and they comprise of amount of intravenous fluid administered perioperatively, dysfunction of the detrusor, reflex urethral spasm, clinically silent prostatic hypertrophy and fear of pain. (21) However, none of the patient under our study needed an indwelling catheter.

While more than 9% of patients in our series have contacted us for the postoperative pain, none of them needed readmission. Reassurance, regulation of dietary and bowel habits; improving local hygiene and prescribing an additional dose of analgesics were enough to achieve a satisfactory pain control.

Our experience in ambulatory surgery has made it clear that good patient information and support are vital, as is early outpatient review. (22) Patients knowing that they will be seeing a doctor as and when needed, will accept symptoms that may well resolve spontaneously. (23,24)

It is not to overemphasis that there is a need to educate the patients on the safety, economy, accuracy and efficacy of the concept of daycare surgical procedures so that a greater number of patients could opt for and reap the benefits thereof.

In conclusion, our study confirms an already well-established observation that day care proctology can be performed with a high degree of patient satisfaction if the patient receives precise and clear preoperative explanation and also postoperative instructions.

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Table 1- Distribution of patients according to ASA [American Society of Anesthesiology] classification.

ASA Group	Number of patient	Percentage of total patient populati
I	2485	76.4
II	739	22.7
III	32	0.9

Table 2- Distribution of patients operated with different kind of anesthesia.

TYPE OF ANESTHESIA	NUMBER OF PATIENTS	PERCENTAGE OF TOTAL PATIENTS
General	2289	70.3
Caudal	597	18.4
Spinal	188	5.7
Local	182	5.6

Figure 1. Number of patients operated for various ano-rectal pathologies as day care surgery.

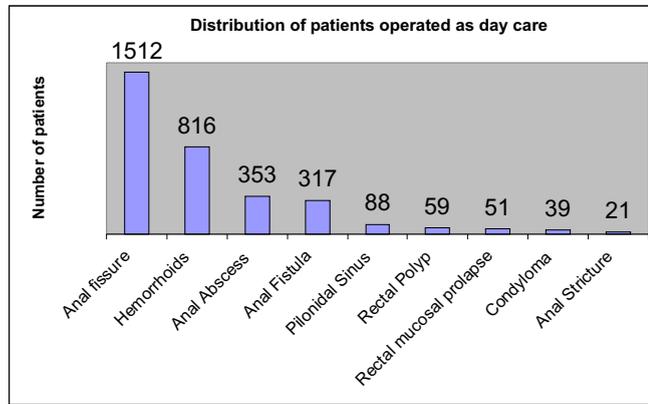


Table 3- List of major and minor postoperative complications encountered in day care proctology surgery.

Complications	Number of patients	Percentage of total patients
Major		
Secondary hemorrhage	9	0.27
Septic complications	5	0.15
Loss of applicator in rectum	1	0.03
Severe perineal burns	1	0.03
Minor		
Retention of urine	37	1.13
Perianal thrombosis	16	0.49
Fecal impaction	11	0.33
Continence disturbances	8	0.24
Local skin allergy	3	0.09
Drug hypersensitivity	3	0.09

Choice of Anesthesia for Day Care Surgery. Our experience over 10 years.

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Introduction

The trend of performing more and more cases as 'day care' is increasing by the day. Most cases which previously needed admission are now being performed on an outpatient basis. Most of these surgeries are being performed in hospital based ambulatory surgery units. Many surgeries are also being performed in non hospital i.e. nursing home, clinic or office settings. We are seeing the continuing shift of more complex operations and procedures from the inpatient hospital to the outpatient settings in all areas. Office-based surgery has several potential benefits over hospital-based surgery, including cost containment, ease of scheduling, and convenience to both patients and surgeons.

Anesthesia For Day Care

Anesthesia which is specifically tailored for ambulatory surgery involves a multi component integrated approach including the drugs used. The anesthetic drugs must have consistent onset and offset times, permitting rapid changes in levels of drug effect.(1) The anesthesiologist must also focus on minimizing the post operative side effects of anesthetic drugs. There should also be an increased awareness of the cost of care which includes but is not limited to the cost of anesthesia drugs themselves. The anaesthetic techniques chosen should have minimum stress and provide maximum comfort to patient in addition to minimal residual effects. A multimodal peri-operative analgesia with paracetamol, NSAIDS, opiates and local anaesthetics should be a part of anaesthesia.(2)

Our Experience

Abhishek Day Care Institute and Medical Research Centre, which recently completed 14 years in this field, is a dedicated Day Care Surgery Centre. We

have an experience in Ambulatory Surgery of over 15,000 cases, over a period of 10 years, which have been done at our institute. Cases mostly include day care general surgery cases like hernia repair, hydrocele repair, lumpectomy, haemorrhoids, pilonidal sinus excision, circumcision, appendectomy etc. We have also recently started performing Day Care Minimal Access Surgeries including Laparoscopic Appendectomy and Laparoscopic Cholecystectomy along with Laparoscopic Varicocele Repair etc.

Various Modalities of Anaesthesia Used

General anesthesia

It can be given in various forms like TIVA or balanced anesthesia with inhalational agents, endotracheal intubation or LMA, spontaneous or controlled respiration etc. The use of newer anaesthetic drugs, such as propofol and sevoflurane permit greater ease of titration, earlier awakening, and decreased time to achieve required discharge criteria. (3,4,5)

It is given for cases like Diagnostic Laparoscopies, Laparoscopic, Laparoscopic Assisted or Open Appendectomy, Laparoscopic Cholecystectomy, Laparoscopic Varicocele surgery etc.

Local anesthesia

This is the most commonly employed form of anesthesia for the cases done at our institute. Local anesthesia may be administered by local infiltration, topical anesthesia, IV regional anesthesia or peripheral nerve blocks during monitored anesthesia care. The advantages of using local anesthesia include residual postoperative analgesia with the use of long acting local anesthetics and avoidance of side effects associated with general anesthesia. However, the injection of

local anesthetic solutions is uncomfortable especially when multiple injections are required. Traction on deep structures as well as the need for patients to remain immobile for prolonged periods of time can be associated with significant discomfort. Finally, many patients find the operation theatre environment and the idea of remaining awake during surgery anxiety provoking. For these reasons, local anesthetic techniques are usually combined with IV drugs to provide anxiolysis, sedation and supplemental analgesia. In addition, there may be some economic advantages associated with operations performed under local anesthesia with IV sedation compared with general or spinal anesthesia. Monitored anesthesia care

More and more cases are now being performed in 'monitored anesthesia care'.

According to the American Society of Anesthesiologists (ASA), a monitored anesthesia care (MAC) is a planned procedure during which the patient undergoes local anesthesia together with sedation and analgesia.(6)

The 3 fundamental elements and purposes of a conscious sedation during a MAC are: a safe sedation, the control of the patient anxiety and the control of pain. The patients undergoing conscious sedation are able to respond to questions appropriately and to protect airways. Last but not least, another purpose of any MAC is to get the patient appropriately satisfied, allowing him to get his discharge as fast as possible. Intravenous sedation begins after intravenous access is secured, cardiopulmonary monitors are applied, and oxygen is given via nasal cannulae.

Midazolam, a short acting, water-soluble benzodiazepine, is administered in 1-mg bolus doses for its amnesic and anxiolytic properties. Midazolam, with a 2-hour half-life, has limited cardiovascular effects, allows for expeditious recovery, and has no postoperative sequelae such as nausea and vomiting.

Fentanyl, an opioid analgesic, is given in the doses of 0.5 - 1 mcg/kg. It is short acting and potent opioid useful for day care procedures. As with all narcotic agents, respiratory function can be depressed, and the patient may experience nausea and emesis.

A bolus dose of propofol 0.5 - 1 mg/kg can facilitate tolerance to injection of local anesthetic agents. Propofol is a rapidly acting sedative and hypnotic agent. Propofol has excellent effects with quick patient recovery. Given in 0.5-1 mg/kg injections that are infused slowly prior to the injection of local anesthesia, propofol maintains respiratory drive and allows the patient to tolerate the local anesthetic injections.

Total intravenous anesthesia (TIVA)

In ambulatory practice, total intravenous anaesthesia (TIVA) provides advantages for all short surgical procedures and for ENT and ophthalmic surgeries. The TIVA methods are well tolerated and perceived to give good quality patient care; with rapid, clear-headed emergence and low incidence of postoperative nausea and vomiting. Propofol and Remifentanyl infusion would be ideal.(7) If remifentanyl is not available, fentanyl can be used but prolonged infusion can be cumulative and is best avoided.

Spinal anesthesia

Spinal anaesthesia in the outpatient is characterised by rapid onset and offset, easy administration, minimal expense, and minimal side effects or complications and offers advantages for outpatient lower extremity, perineal, and many abdominal and gynaecological procedures.(8)

Spinal anaesthetic techniques for common ambulatory procedures highlight the success of combining subclinical doses of local anaesthetics and intrathecal opioid adjuncts. The neuraxial block with shorter acting local anaesthetic agents, specific to the expected duration of surgery, may provide superior recovery profiles in the ambulatory setting.(9)

We prefer to give a saddle block with a maximum of 2 cc of heavy bupivacaine (0.5 %) and keep the patient seated for 3 minutes to achieve the desired effect. The anesthesia is limited to the 'saddle region' and spares motor block to the extremities.

Pain relief

We use multimodal analgesia approach for post operative pain relief. This includes opioid as well as non opioid analgesics. Nonopioid analgesics are increasingly being used as adjuvants before, during, and after surgery to facilitate the recovery process after ambulatory surgery.(10) Combination of analgesics helps to reduce the dose of individual drugs and therefore prevent the side effects. They also act on the different levels of the pain pathway and have synergistic action. We administer paracetamol 1 gm intravenously before surgery. Diclofenac and or tramadol suppositories are given at the end of surgery. The patients are comfortable post operatively. Further pain relief is provided as demanded by the patient.

Recovery

Postoperatively, patients are monitored for cardio respiratory function, bleeding, nausea, and pain. The rapidity of patient recuperation depends on many factors like the length and type of procedure, type of sedation employed and pre existing co morbidities. Patients undergoing surgery under local anesthesia with minimum or no sedation are the ones who recover faster. They have pain relief in the post

operative period because of the action of local anesthetic, can take their food earlier because of no nausea or emesis and are home ready earlier as compared to patients receiving general anesthesia or deep sedation.

YEARS	L.A	LA +SEDATION	GENERAL ANAESTHESIA	REGIONAL ANAESTHESIA	TOTAL
2010	560 41.5 %	756 56.5%	13 0.8%	19 1.1%	1345
2009	547 44.2%	650 52.3%	26 2.1%	13 1.1%	1234
2008	506 42.8%	626 53.0%	20 1.7%	27 2.3%	1178
2007	542 49.2%	514 46.7%	15 1.4%	28 2.5%	1098
2006	419 44.3%	495 52.0%	15 1.7%	15 1.7%	942
2005	365 41.7%	451 51.6%	34 3.9%	23 2.6%	872
2004	295 44.8%	329 50.2%	20 3.1%	12 1.7%	656
2003	302 50.4%	268 44.8%	9 1.5%	19 3.125%	592
2002	205 42.0%	244 50.6%	20 4.3%	14 2.9%	485
2001	147 36.0%	213 52.0%	25 6.4%	22 5.4%	406
10 YEARS	3888	4541	197	182	8808
ANAESTHESIA			TOTAL NUMBER	PERCENTAGE	
LOCAL ANAESTHESIA + SEDATION(MAC)			4541	51.5%	
GENERAL ANAESTHESIA			197	2.2%	
REGIONAL ANAESTHESIA			182	2%	

Type of anesthesia for various surgeries

§ 8808 patients were operated at our centre
 § 51.5% patients were operated under local with sedation
 § 44.1% were operated under local
 § 2.2% underwent general anesthesia
 § 2% patients underwent regional anesthesia.
 § Incidence of postoperative complication was least with the monitored anesthesia group (i.e. local with sedation) as compared to the other groups.

Conclusion

There is an increasing shift of cases which were previously performed with 24 hours or more stay at the hospital, which are now carried out as day care surgeries or ambulatory surgeries. Keeping with the trend, the choice of anesthesia for these cases has also changed or been modified accordingly. Cases that previously needed general anesthesia or spinal anesthesia are now being done under local anesthesia with monitored anesthesia care i.e. administration of sedation only if required and titrating it to individual

needs. This has led to cost effectiveness as well as excellent recovery profile for the patients. We therefore consider it to be the best form of anesthesia for day care surgeries.

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Patient flow management.

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Patient flow management is a subject that often receives less attention than it deserves. However, it is one of the key areas that influences patient satisfaction. More importantly, a well-planned and effective patient flow management strategy enables you to save time, as well as reduce stress in your practice.

Oftentimes, there is a tendency to think that very little can be done to manage patient flow. It's an occupational hazard something to live with. There is a huge resistance to change, more in the older generation, but surprisingly, present in the younger lot as well.

The problem starts with the patient seeking appointments in different ways unexpected walk-ins, urgent appointments, VIP patients etc. This continues with a lack of efficient staff, skilled in managing your schedule, lack of transparency in queues, patient arguments, and doctors and patients being unable to keep up to the promise of the schedule.

As one of the specialist doctors quite eloquently put it, "It's as if you are trying to create a calm, serene pond in the middle of the Himalayan rapids."

Doctors themselves are sometimes unable to keep up with their time commitments. More often than not, we schedule more that we can handle in a working session, don't reach on time, leave later than required and are afraid of losing out to the competition if we have to turn someone away.

All hope is not lost yet.

Let's accept one thing. Doctor appointment scheduling is a difficult problem to solve. There is no silver bullet. The solution lies in the intersection of technology, process, and people. The underlying philosophy of the solution is that doctors' schedules change, and they change often and without warning. Technology should make it easy for changing

everything, keeping it current, and most importantly, communicating the change instantly to stakeholders.

The following key strategies can be used to make patient flow management easier.

First, and most importantly, have a central, real-time shared calendar all appointments in one place. No clashes. If you are visiting multiple locations, the calendar should be powerful enough to manage multiple locations. This technological tool should be capable of allowing you to specify your schedule, manage your time slots, and change the configuration in real time. It may seem challenging but all it needs is a server computer and everyone's best friend the smart phone.

Secondly, identify the channels through which patients reach out to you. Phone, Internet, and walk-ins are the main channels. Identify a tool that integrates all three into a real-time calendar. Technology is available today in which a personalized automated IVR (Interactive Voice Response) system answers a patient call, looks up your calendar, announces the available time slots, and upon selection, communicates via text message and email the chosen time of the appointment. The staff thus has full visibility of the doctor's schedule. This may still be a daunting task for most of us, so, simpler options would be to integrate all the channels onto one responsible person to schedule all your appointments. Your man Friday (or woman Friday) if you will! Once there is only one person giving appointments, there is rarely a chance of a mistake in scheduling.

Thirdly, reserve enough slots for walk-ins to avoid your schedule going haywire. Do not fill up everything with appointments. This is perhaps the single most important tool to deal with these problems. Yes, in the beginning, you will feel like you are wasting time in between appointments, but, it will sort itself out as well as allow time for

Emergencies.

Communicate your honest emotions to patients who do not turn up for appointments respectfully (ex: “Please cancel appointments so that you can free up the slot for other patients”). Some people even charge for missed appointments but this may be too harsh a step in the beginning. It does however increase compliance dramatically.

Fourthly, communicate any changes in scheduling by cancellation text messages/emails. Patients accept that doctors can get busy with emergencies, and they appreciate knowing about changes to the schedule beforehand so that they can plan accordingly. You will lose an appointment for the day but gain a patient for life! Clear communication has been voted the number one factor in the patient doctor trust relationship.

Finally, improve transparency in your clinic/hospital by displaying the patient queue using overhead screens that indicate “who is next.” Keep the power to change queues if needed. If you are using a token system, a random number will leave the power to you to decide who comes in without annoying the waiting patients. If you can't use a token system, please let the others know why the preference is given. They may not like the reason but will appreciate the truthfulness behind it.

Keep in mind that no matter how good your scheduling system may be, things will go wrong on a bad day. However, overall, you will make more people happy than upset. This will lead to good word of mouth and a better practice.

Quality Issues and Accreditation in DSC in India

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Introduction:

High quality, affordable surgeries, is the concept of Day Surgery. Having said that, it is faced with several issues on identifying and maintaining quality at every step.

Organisations like ISO, NABH, FEQH, etc, help in setting standards for a centers functioning. Some of these accreditation forums have very high and demanding standards, which is out of bound for smaller centers with limited budget. But, there are organizations, like ISO group, which are more flexible and allows you to set your own standards.

When we talk about uniform processes for a DSC, we assume that we will have the same method of surgery in different centers. But, that is not true. Surgical treatment varies for surgeon to surgeon and cases to case. What can be standardised is the patient selection, case preparation, list of surgeries and duties including management of the center's activities. Protocols proposed and implemented across different centers and cities, will assure a minimum standard that can be easily followed for the safety of the patients.

Quality issues:

- 1) Level of excellence: indicating up to what level of excellence you expect the quality of your Centre, you could be Minimum, Optimum, or Excellent, depending on the equipment, qualification and training of the staff and its maintenance.
- 2) The degree to which a man-made object is free from bugs and flaws as opposed to scope of functions or quantity of items.
- 3) Anything that interferes with the smooth running of your center, can become a quality issue if it is recurrent.
- 4) Delay in any Processes that have been set up for the smooth running of the Center.

Major Issues:

- Staff qualifications and training compliance.
- Doctors acceptance and training.

- Patients acceptance and counseling.

Staff:

— Qualification: starting for the receptionist to the RMO, we have to decide what would be the minimum standard or qualification that you will look for before hiring and training the staff.

— Experience does make a difference to the overall grasping and quicker compliance, but, it comes at a cost.

— Aptitude or grasping power for the purpose of training and working, can be judged only after some time passes. Therefore, it plays a major role in determining factors dependent on the compliance of the processes put in place.

— Training: a set pattern and minimum time frame needs to be decided for every training module, which can be increased as per the determined level of the trainee.

— Problems: Creating and foreseeing, is the first step towards rectifying it. At every step in the implementation of the Processes set up by you, you will have to anticipate problems and find immediate and long-term solutions. Some of these, have been listed below.

— Solutions: Self-motivated and following problems, are also illustrated below.

Problems:

— Scheduling of patients: would mean, the next day OT list preparation. Usually, we set up according to either pre-determined timing of the surgeon on that day, or on 'first-come-first' basis, or clean followed by dirty cases if there is only one OT, or there are no separate septic OT. This list is finalized on the day before and re-scheduling / confirmation of cases with the surgeon and then the patient is initiated. As you can see, the variables that come into play on a daily basis can cause a lot of jugglery on the part of the OT staff and can be time consuming. Therefore, a senior / efficient / well trained staff becomes essential, as the day begins with the OT list starting on time.

— Admission process on the day of surgery looks like a simple enough process, but, can get delayed by the delayed arrival of the patient. If in case there is no separate ward for Day Surgery and the indoor is same for short and long staying patients, then the discharge and allotment of empty beds on the same morning, can cause delay in starting the OT.

— Billing at the end of the procedure is supplied by inputs from the OT staff, as well as the ward staff. Proper coding of the procedure will help in generation of the correct charges and additional procedure cost will also have to be factored in. This would include the time taken in the OT, material used, anaesthesia used and quality of sutures along with other consumables.

— Discharge of a patient is a variable for each patient as it depends on the nature of the procedure and the time of ending the surgery along with the anaesthesia used. For the process of discharge to be smooth, presence of care givers is important, unless it is a very minor procedure. Therefore, Protocols set-up and followed are helpful.

— Ward: incomplete preparation, is the most common cause in delay of surgery in a patient, for example, in a case of Haemorrhoidectomy, if the patient is not satisfied with his bowel movement, he may demand an enema or may lock himself up in the toilet for indefinite period of time! Shaving of the operation site is also practiced in most centers, after admission. Dependence of barber, in a ward full of male patient, can lead to certain delays.

— OT: delay in shifting & cleaning process; has to be rapid with minimum delay. For which, employing dedicated staff can be sometimes essential for the smooth running of the center.

— Anesthetist: a busy anaesthetist or someone who is particular about the preparation required in the OT before induction of anaesthesia, would demand extra time before and after surgery, which you may not have. Therefore, processes need to be in place to minimize turn-over time.

— Surgeons: the most important person of the operation theater, the star performer, if he is the type who reaches before time, then you are OK, but if he is one of those who meanders his way to the hospital, via the wards or ICU or his Consulting rooms, then definitely expect delays.

Problems in OT:

— Failure to be prepared: here, the real competency of the OT staff comes into play, anticipation or pro-active inquiry before surgery, helps in preparation. Keeping in mind the needs of a particular surgeon, helps in the smooth beginning of the cases.

— Site/side of surgery: several articles have been published on why and how site and side of surgery is important to prevent mishaps of wrong side/site being operated upon. Marking the side/site, asking the patient on table, before anaesthesia, separate confirmation of the site/side by anaesthetist or assistant surgeon, are different options to avoid inappropriate surgeries.

— Injury during surgery: being pro-active in identification and informing of the injury which has been overlooked by the chief surgeon, can save the embarrassment and complication that will follow. It is recommended, that, even if it is the junior most staff, who identifies the injury, it should immediately brought to the notice of the operating surgeon, without hesitation. Most

of the time, the person who sees the injury prefers to keep quiet due to the hierarchy that prevails in the OT. They should be assured of a reward, instead, if they are able to overcome their fear and point out the surgeon's oversight.

— Foreign body left behind: the process of proper counts of instruments, gauze, sponge, etc. is always emphasized with reasons. Many a 'lost' instrument or foreign body have been discovered by another hospital or surgeon, much to disastrous effect. Making a note of it on the notice/white board of the count, handing over the count to another scrub nurse who takes over, and insisting on complete count of all entities before reversal of the patient and closure, is very important. It goes without saying that the surgeon, however busy he may be, will be required to wait for the count and respect the Nursing staff in this matter.

— Hasty surgeon: It is very difficult to slow a surgeon down without him getting upset. But, proper precautions and a check list by the assistant usually helps.

— Distraction: cell phones and loud conversations can be very disturbing to the patient and the surgeon, alike. Care should be taken to make it possible for these distractions to be minimum.

— Not enough time gap between surgeries: 'Time out' is a concept extensively used in busy OT. It is pre-decided by the OT team, as to when and for how long, there should be a break in the work of the OT, so that, there is a breather in between, which can re-orient and re-fresh everyone, thus, reducing mishaps in the OT.

— Improper note and handing over: Check list should be an integral part of the processes of any Centre, at very stage, if a meticulously filled check list is maintained, with the signature of handing over and taking over staff, the chance of missing out on something is reduced.

— Disinfection: with the availability of rapid acting disinfectants, the OT can be cleaned after every major case, and fumigated every day. Swab and air sampling on 3 monthly basis reconfirms the effectiveness of the disinfectant and keeps wound infection at bay.

Solutions:

— Protocols: Right from Patient Selection Protocols to Discharge Protocols are available for Day Surgery Centre, they have been modified over a period of time to suite the Indian patient. Meticulous utilization and following the Protocols can increase efficiency and effectiveness of a DSC.

— Standard Operative Procedures (SOP): every protocol written and displayed at every step, incorporated as part of SOP's, makes each and every member of the staff aware of the processes and easy to follow, without fail. These should be single paged and every one should be made to go through the SOPs.

— Manuals of Instructions: can be more detailed and changed from time to time as per the analysis and inputs of all concerned persons, including the patient feedback forms.

— Written instructions: again, check lists for the staff and printed instructions of Pre and Post operation to the patient is invaluable in prevention of complication and reassurance to the relatives.

— Communications: or lack of it, is one of the main reasons for a disaster in any set-up. Many things are taken

for granted and as understood. Please repeat and communicate. It holds true for the staff, doctors, patients and their relatives.

Importance of Protocols:

Should be written and displayed for everyone to see, read and refer to from time to time. No shame in referring to them. When in doubt, ask, should be the motto.

Periodic review of Protocols and improvement with additions or deletions is acceptable. Training for staff in recognition of the importance of protocols. These can be made simple and emphasized that they will be of benefit for their work, for example, Autoclave protocol and OT sterilization protocol is something each and every staff member should be aware of. These, ideally, should be written in the language commonly understood and spoken by the majority.

Protocols:

Without going into the details of each Protocol, a list of these are given below:

- Patient selection.
- Patient Preparation.
- Admission process-Reception/Ward.
- Check list in the ward.
- Check list in the OT-Intra op.
- Anaesthetist Check list.
- Post Op. check list.
- Discharge Criteria's.
- Prepare for next day.

The application of all the above Protocols, as you can see, are encompassing the Surgical / Medical staff, as well as supporting staff of Nurses and Receptionist.

WHO has recommended checklist for the OT, which is simple to use and implement.

Accreditation Internationally:

Of the several bodies which are actively propagating accreditation and approved by Medical bodies, internationally, some have been listed here. Details of each, its activities and procedures are beyond the scope of this article. Individual references can be had from their respective website.

- American Association for Accreditation of Ambulatory Surgery Facilities (AAAASF).
- Accreditation Association for Ambulatory Health Care (Accreditation Association or AAAHC).
- The Joint Commission.
- International Organisation for Standardisation (ISO).
- Healthcare Facilities Accreditation Program (HFAP).

Accreditation in India:

Locally, we have our own bodies, autonomous and supported by Healthcare administrators, are as follows:

- Quality Council of India (QCI).
- National Accreditation Board Hospitals & Healthcare Providers (NABH).

'The aim is to enhance the patients' quality of care by providing better medical treatment and preventive healthcare medical care services with the state of art technology with easy accessibility, affordability & equity'. As is relevant from this, that these criteria's, though exhaustive, are well thought out and with some effort, can be implemented and used by all.

Preamble:

The major emphasis is on sensitization of health care organization towards importance of quality healthcare services; involvement of staffs for improving the quality of patient service; development, review and implementation of policies and procedures for implementation of Quality Management System.

NABH

Some of the points highlighted are to give you an idea of its application and inadequacies, as it stands now. Over a period of time, as it is more and more used, we would be able to create an ease of use, that is, more user friendly.

- Clinics, Primary Health Centers, Community Health Care Centers, District Hospitals, Large Hospitals.
- Day Care Surgery Centers: Smaller Healthcare Organizations: 20 to 50 beds.
- Associated with International Society for Quality in Healthcare (ISQua) and Asian Society for Quality in Healthcare (ASQua).

Processes involved:

- General information.
- Self assessment.
- Application.
- Scrutiny of Application.
- Pre-assessment visit.
- Final Assessment and Review of Assessment.
- Recommendation for Accreditation.
- Approval and Issue Certificate.

ISO

Most well known and commonly used standardization process worldwide, in all industries, including healthcare. The basic principle of ISO is to create your own standards (within the frame work given), implement it, and follow them. They have to be periodically scrutinized and updated.

- International Organization for Standardization.
- Bureau of Indian Standards (BIS).
- ISO 9001:2008 International Standard for Quality Management Systems (QMS).
- Simpler, Easy to set and follow.
- Standard Operative Procedures (SOP) & Manuals.

FEQH

Derived out of Quality Council of India's recommended standards, now being used in more and more cities, for creating standards of care, that will, over time, become a minimum requirement all over the country.

- Forum of Quality in Healthcare (FEQH).
- Create Minimum / Optimum / Excellent standards in Nursing Homes & DSC.

- Standard Operative Procedures (SOP).
- Specify minimum infrastructural requirement.
- Assist in creating a safe and infection free environment.
- Establish: Objective elements for categorization.

Some of the most common and relevant examples taken from the FEQH policies have been detailed below for you to go through, to get an idea as to what it proposes. As you will see, these are not impossible or difficult to establish and implement. These are recommendations which you will understand as you go through them.

A) Waiting Room:

- Adequate size: > 80 sq ft.
- Well lit.
- Comfortable.
- Reading material: Informative & Educative.
- Emergency light.
- Free Drinking water.
- Display of Patients rights and Quality Policy.

B) Examination room:

- Shall be well lit, comfortable, Examination table, X-ray viewer, weighing scale, thermometer, BP app., wash basin, Glucometer, etc.
- Area: Minimum: 50 to 70 Sq ft.; Optimum: 71 to 100 Sq ft.; Excellent: > 100 Sq ft.

C) Patient Wards:

Shall provide:

- a) Cot, Bed side locker, Call bell, Wall clock, Toilet/Bath, Chair for attendant.
- b) Portable suction machine, Emergency Medicine, Ambu-bag.
- c) Bed Pans, urine pot, emergency light & mosquito repellent.

Elements	Minimum	Optimum	Excellent
Objective	a	a & b	a, b & c
Area	40 Sq Ft	40 to 70 Sq Ft	> 70 Sq Ft
Passage width	3 Ft	3 Ft	3.5 Ft

D) Operation Theatre:

Elements	Minimum	Optimum	Excellent
Size	100-120 Sq Ft	120-180 Sq Ft	> 180 Sq Ft
Changing Room	Conceptual	Conceptual	Defined
Boyle's Apparatus	Not required	Required	Required (Vaporizers)
Monitors	Pulse Oximeters	Multipara+Cardiac	Multi P+Capnography
Defibrillator	Not required	Recommended	Required
Ventilator	Not necessary	Not necessary	Necessary
Light	1 Ceiling	+ Floor/ 2 Ceiling	2 Ceiling + Portable
Emergency Power Backup	Emergency Light	Generator/Inverter	Generator / Inverter
Electric Autoclave	Single drum	Double drum	Double drum
OT Sterilization	Fumigation	Fumigation	+Fogging/Laminar air Flow
Protective Zone	Not required	Required	Required
Swab/Air culture	Required	Required	Required

E) Staff:

- a) Well mannered.
- b) Well trained.
- c) Trained in various Protocols followed.
- d) Training in Bio-medical waste disposal.
- e) Nursing audit / Evaluation every year.

Elements	Minimum	Optimum	Excellent
Objective	a, b	a, b, c	a, b, c, d, e

F) Infection Control:

- a) Waste segregation, hand washing procedure and other preventive practices.
- b) All nursing & technical staff to be immunized against communicable diseases.
- c) Systemic efforts to be made to control Hospital Acquired Infection.

Elements	Minimum	Optimum	Excellent
Objectives	a	a, b	a, b, c

G) Patients Suggestions / Complaints:

- a) Suggestion/Complaint box to be placed at convenient location.
- b) A mechanism in place to redress all Complaints/Suggestions.
- c) Obtain Suggestions/Complaints from all stake holders.

Elements	Minimum	Optimum	Excellent
Objectives	a	a, b	a, b, c

Record Keeping:

- In Patient Records.
- OPD records.
- Medicine scoring.
- Emergency medicines.
- Emergency procedures.
- Evacuation plan.
- Licenses.

Management of Standards

Once you have accepted the Standardisation process and implemented them, you have to maintain them with periodic checks so as to not slip up on any of these Protocols. So, important points of the managements are:

- Maintenance.
- Continual improvement.
- Control on out-sourcing.
- Control on Purchases.
- Self-assessment: periodic.

There is a team of trained auditors from each organisation, who help you in improving by pointing out the deficiencies and suggestion on them.

What we need:

We need to create our own accreditation systems, unique

to Day Surgery Centres, deriving our sources from the various available standardisation Organisations and initiate 'ABCD' (Accreditation Board for Certification of Day Surgery Centers in India).

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- 4) Ambulatory Surgery Centre Association. ascassociation.org
- 5) Ambulatory Care: Joint Commission International. www.jointcommissioninternational.org
- 6) Accreditation Standard for Nursing Homes & Day Care Centres. FEQH, Forum for Enhancement of Quality in Healthcare.
- 7) American Association for Accreditation of Ambulatory Surgery Facilities.
- 8) Accreditation Association for Ambulatory Health Care.
- 9) National Accreditation Board for Hospitals & Healthcare Providers. NABH.
- 10) ISO 9001. International Organisation for Standardization.

Port site tuberculosis presenting after laparoscopic surgery report of two cases

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Introduction:

Laparoscopy has its own set of complications in addition to those operation proper (1). A rare complication of primary tuberculosis infection at the port site following laparoscopic surgeries appendectomy and hysterectomy in two patients is reported.

In light of the explosive increase in laparoscopic surgery there is concern about the effectiveness of sterilizing laparoscopic instruments by immersion in 2% glutaraldehyde. This article describes 02 (two) cases who presented with biopsy proven granulomatous lesion of tuberculosis at the port site which were of primary origin.

Aims and objectives:

A report of two cases of port site tuberculosis treated at Santosh multispeciality hospital and day care surgery centre, Nashik.

Discussion:

With increasing use of laparoscopy for various surgical procedures, the occurrence of port site tuberculosis is seen more often as a postoperative complication. In recent times, various diagnostic tests have come up for confirming the diagnosis of tuberculosis. However, lack of awareness of this entity leads to prolonged morbidity and repeat surgical interventions. This complication can be best avoided by strictly abiding by the commandments of sterilization techniques of the laparoscopic instruments with appropriate sterilizing agent.

Case- 1

45 years old lady with history of Laparoscopic hysterectomy three months back, presented with discharging sinus over left lower quadrant port site since two months. She had uneventful recovery after initial Laparoscopic surgery. She was discharged home after 5 days of laparoscopic hysterectomy and sutures were removed on day 10. She developed a tender nodule

followed by spontaneous pus discharge, one month after the surgery. She was treated by antibiotics and debridement under local anaesthesia. Frequent dressing of the wound used to be done but there was no significant improvement of the wound.

An ultrasound was done which revealed a heterogeneous lesion in the oblique muscles of abdomen communicating with a curvilinear sinus tract in left lower quadrant of abdomen. The findings were suggestive of granulomatous inflammatory lesion.



The sinus tract and granulomatous lesion was excised under spinal anesthesia.



The sinus tract and granuloma were sent for histopathological examination and gene expert test.



Pus was sent for routine culture and antibiotic sensitivity test and AFB culture. Gram and ZN staining of pus smear was advised. Biopsy from the margin and unhealthy granulation tissue from the wound revealed granulomatous lesion simulating tuberculosis. The patient was evaluated with tuberculin test, wound swab for acid-fast bacilli (AFB) and all were negative for tuberculosis. Anti TB chemotherapy with standard drug regime (4 drugs for two months and 2 drugs for 6 months) was provided to the patient. The local wound was managed with frequent dressing and the wound was completely healed up within 2 months and the patient was asymptomatic.



Case-2

42 year old lady with history of Laparoscopic appendectomy two months back presented with parietal wall swelling over suprapubic region since one month. She was treated with oral antibiotics but had no relief. The swelling persisted and increased in size.

Ultrasound was advised which was suggestive of heterogeneous lesion with internal echoes within the right rectus sheath in the infraumbilical region and extending to the suprapubic region. This lesion was suggestive of parietal wall abscess.

CT abdomen was advised which was again suggestive of parietal wall abscess involving right rectus muscle. The lesion was extending upto preperitoneal space. Underlying omentum was adherent to the above abscess. There was no intra-peritoneal extension. The lesion was explored, abscess was drained and unhealthy tissue was excised and specimen was sent for histopathological examination and gene expert test.



Pus was sent for routine culture and antibiotic sensitivity test and AFB culture. Biopsy from the margin and unhealthy granulation tissue from the wound revealed granulomatous lesion simulating tuberculosis. The patient was evaluated with tuberculin test, wound swab for acid-fast bacilli (AFB) and all were negative for tuberculosis.

Anti-TB chemotherapy with standard drug regime was provided to the patient. The local wound was managed with frequent dressing and the wound was completely healed up within 2 months and the patient was asymptomatic.

Discussion

Cutaneous tuberculosis makes up only a small proportion of all cases of extra pulmonary tuberculosis (2). There are three ways in which cutaneous tuberculosis generally occurs: A) From an exogenous source (inoculation tuberculosis) B) From an endogenous source (secondary tuberculosis) and c) From a haematogenous source. Both of the patients of this study had no foci of tuberculosis and laparoscopy ruled out any evidence of abdominal tuberculosis. Thus in both these cases the most likely of transmission would be via the laparoscope probably the instrument was improperly sterilized or the organisms were resistant to the mode of sterilization leading to implantation of tubercle bacilli in the subcutaneous plane and development of granuloma (3).

Sterilization is defined as the complete elimination of all forms of microbial life (4) However it is widely agreed that 2% glutaraldehyde achieves high level disinfection and not sterilization and it is a standard agent for reprocessing of laparoscopic instruments in many centers. Several publications however have highlighted failure of a 20 min instrument soak in 2% alkaline glutaraldehyde to sterilize instruments (5). When 2% alkaline glutaraldehyde is used, the following principles are recommended. Careful pre-cleaning of instruments before their immersion in the disinfectant, use of the agent at the room temperature (25°C) which may require heating it in cool operation theatre environment and frequent checks of the glutaraldehyde concentration because repeated use results in dilution (6). Guidelines for reprocessing laparoscopic instruments have not been standardized. The Minimal Access Therapy Decontamination Working Group has recommended only 10 min soak for laparoscopic instruments with longer time if tuberculosis is suspected. (7)

Conclusion

In case of nonhealing sinus/ swelling following laparoscopic surgery, keeping the possibility of port site tuberculosis in mind will lead to early diagnosis and treatment.

Currently prevalent practices of immersing laparoscopic instruments for 20 min in 2% gluteraldehyde should be re-examined. The laparoscopic instruments should ideally be sterilized by autoclaving, although it runs small risk of damage to the delicate instruments as this may be the only method of preventing such cases.

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