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EDITORIAL

The 11th issue of our Journal is a first issue, where we have a Guest Editor, Dr. Bhavinder Arora, of PGIMS, Rohtak. He is a founder member of our Association and had volunteered to try his hand at editing. I must say, he has done a good job.

The collection of articles are varied, as usual, and as the Chief editor, I will be writing a brief reviews on each.

Prof. Ananthkrishnan, a senior surgeon and Dean of MGM college, Ponducherry, in his article, has summarised in a nutshell, his thoughtful analysis of Day Surgery and its insights. He had presented an Oration, on the same topic at ADSCON 2014, in Chennai. His research on Day Surgery has brought out the barriers faced in India, how to overcome them and make it safe for our patient population.

The next article is by Drs. Mulchandani and Begani, who was our Founder President and has a vast experience in Day Surgery, which he has shared with us. Important in the analysis is the Major surgeries, which are the true Day Surgery and not minor procedures or endoscopies. They have among them, what is called as 'Bread and Butter' surgeries of every surgeon's operating list in any part of the country.

Day Care Lap Appendectomy by Dr. Santosh Rawlani, is a pioneering effort of a young surgeon in a second tier city of Maharashtra. He is doing a phenomenal amount of Day Surgery work which is encouraging to our upcoming surgeons too. What would have been more interesting is his experiences on patient reaction to Day Surgery and how he has been able to counsel them to accept it in almost a rural region. Perhaps we can request him to write another article on incidences from which we can also learn!

A lively discussion via Letters to Editor is a way to share and exchange views. Scientific deliberations, constructive criticism, helps in polishing a thought process. Being a devil's advocate is in fact, thought provoking.

In the world of science that we live in, data is of prime importance. Data collection starts the process of scientific deliberation. Sharing of data, post analysis, is represented in a lecture, article or poster. There are different mediums for advertisement. Definitely not a scientific platform. Here, you do not 'brag' about your experiences, you present your data, humbly, and let others be the judge of your caliber. Of course, you should be able to deal with criticism and rejection. It only makes you stronger and wants you to improve upon yourself. Balant misuse of any of the scientific platform should be prevented. Especially, by editors like us!

- T. Naresh Row

GUEST EDITORIAL

Is Preoperative Investigations Essential in Day Surgery!

Day care surgery is being used with increasing frequency because of significant cost savings and increased convenience for patients & health care providers. The earliest reference for day care surgery is mentioned as early as beginning of the 19th Century by James Nicoll a Glasgow surgeon who performed almost 9000 outpatient operations on children in 1903. Success of day care surgery can be attributed to advances in surgical technologies and in the field of anesthesiology. Advances in surgical technologies that made outpatient surgery and minimally invasive surgery.¹

Ambulatory surgical procedures are performed in patients with no medical problems or those with stable chronic illness. The procedures are generally less than 1 to 2 hours in duration and have minimal blood loss, low complication rates and minimum postoperative care.

Preoperative testing may be used as part of screening process, in addition to physician assessment with a comprehensive history and physical examination, to guide appropriate patient selection and optimize patient care.^{1,2}

Commonly ordered preoperative tests include chest radiographs (CXR), electrocardiogram (ECG), hemoglobin/complete blood count (Hb/CBC), creatinine, electrolytes, liver function tests (LFT), albumin and coagulation parameters. The goal of preoperative testing is to detect abnormalities that might adversely affect outcomes. In the case of known chronic medical illness, preoperative testing is used to assess the current status of disease. Examples include creatinine, potassium and bicarbonate levels in patients with chronic kidney disease, HbA1c to assess long term diabetic control or ECG in patients with heart disease to assess for interval changes from baseline.³

Preoperative testing allows for correction of suspected or unsuspected factors that might adversely affect the anaesthetic or surgical outcomes and allows for proper optimization.⁴

Current guidelines for preoperative testing in India are based on 2002 advisory from the American society of anesthesiology (ASA) task force on pre-anesthetic checkup. As acknowledged in their report, current scientific literature is insufficient to create evidence recommendations are not specific to day care surgery.

Other two important guidelines are from Canadian anesthesiologists based guidelines. ASA guidelines merely represent synthesis of expert opinion and data from small nonrandomized and underpowered studies. Current ASA 2002 advisory panel society (CAS) and Ontario preoperative testing grid (OPTG) advocate are against the use of routine preoperative testing. In ASA preoperative testing without indications lack utility and should be ordered on a selective basis according to information obtained during medical review, patient interview and physical examination. The ASA system has been considered inaccurate because it is based on anesthesiologist's observation and same patient can be different ASA classes.⁵

Also ASA, CSA and OPTG differ from each other in recommendations regarding test types and patient condition. However current data does exist regarding specific tests in literature. Most surgeons do not consider age as a contraindication to day care surgery in the absence of significant co morbidities. Age cutoffs are often not stated, and when stated vary from study to study.⁶ ECG testing in low risk ambulatory surgery are unclear. ASA task force reviewed total of 32 studies regarding the use of preoperative ECG in patients without risk factors and no consensus was formed. However ASA does agree that ECG may be indicated for patients with known risk factors or risk factors discovered during preoperative

evaluation. Continuing further Task force gave its recommendations regarding conducting Chest X ray. The investigators concluded that patients undergoing day care surgery having COPD, recent URTI, smoking and cardiac disease should have a CXR done preoperatively.

Incidence of anemia in healthy adults is low. ASA task force recommends against routine testing with Hb, hematocrit before surgery. Selective testing is required in liver disease, extremes of age (age limit not specified), history of anemia, bleeding or other hematologic disorder. ASA selectively recommends use of blood glucose, liver and renal function tests in patients receiving preoperative steroids, diuretics, digoxin, patients with liver and kidney dysfunction. Routine coagulation profile and Hb1Ac is not indicated in healthy and asymptomatic patients.

ASA recommends routine pregnancy testing in all females of child bearing age.

Sitting back and analyzing the pros and cons of routine preoperative testing for day care surgery most of us agree that it is based on provider preference and institutional protocols. Often surgeons, anesthesiologists, and even patients expect that some preoperative tests will be performed. Moreover inappropriate testing may be performed from lack of communication between multiple providers (surgeons, anesthesiologists and primary care physicians).

Uncertainty regarding the indications for testing leads to high rates of testing. Single institution studies from USA and Canada by Bryson et al, Kaplan and Allison demonstrate that upto two thirds of testing is not indicated.

After exhaustive literature search, I am sure that evidence based criteria are still eluding the health care providers in day care surgery. These procedures are not done emergently; they are done in ambulatory setting in healthy and chronically stable patients. Procedures are relatively simple with low complication rates, and henceforth the guidelines applicable to all complex inpatient surgical procedures may not be relevant in our day care surgical practice. Potential barriers to formulate the guidelines for preoperative testing are lack of communication, institutional policies, and reluctance health care providers to change practice, legal consequences of not ordering a test.⁷

In future, studies should focus not only on identifying specific clinical situation whereby preoperative testing is beneficial and removing the abovementioned barriers. Once clear guidelines are developed there may be desired success in improving patient care and cost benefit will be attained.

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Making Day Care Surgery happen in India

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The term day care surgery (DCS) as per accepted International terminology refers to procedures where the patient is discharged home the same day after the procedure without having to stay overnight at the medical centre¹. This is slightly at variance with the Indian definition which refers to the same day discharge as ambulatory surgery and uses the term day care surgery for those who require a 24 hour stay². For the purpose of this paper the term day care surgery is used in the context of the international definition.

Day care surgery has been extensively discussed in recent times within professional circles as seen by the fact that more than 2000 articles are published in pubmed every year on the topic. However, it is surprising that in spite of numerous advantages, both economic and medical, day care surgery still remains largely confined to metropolitan cities in India.

Several publications have listed the benefits of day care surgery to the patient, the health care system and the nation as a whole. Some of these benefits are patient preference (especially children and elderly), minimal disruption of patient's routine, lack of dependence on availability of hospital beds, release of sparse hospital beds for more complex cases, avoiding cancellation of scheduled surgical procedures due to emergencies, greater flexibility in scheduling of surgeries leading to shorter surgical wait lists, increased volume and turn over of patients, better use of Operating Room (OR) time, low morbidity and mortality, low infection rates, decreased respiratory complications, less pre-operative testing, less post-operative medication use and decreased costs by elimination of overnight staffing and closure of beds and hospitals³.

The economic advantages of day care procedures are tremendous and it has been estimated that the savings made by

promoting day care surgery for selected procedures can vary from 20% to 70% or more as shown in table 1. The cost reduction arises out of a combination of more economic and efficient use of operating facilities and staff, and shutting down of hospital beds which are no longer required for patients since the procedures are now performed as day care.

Basically there are three types of day care facilities. These are,

- Hospital integrated facility (shared beds, ORs, recovery facilities and personnel),
- Self contained unit on hospital site (separate staff),
- Free standing self contained unit (closer to the patients home) and
- Physicians' office based units where only very minor procedures are done.

These differences are relevant and will be referred to again in suggesting measures to promote day care surgery in India.

Global scenario

The employment of day care surgery as the norm for various surgical procedures has varied from country to country even for the same procedure. It is seen from table 2, that the percentage of hernia repairs done as day care varies from less than 10% to more than 70% in different countries⁵. The figures for cataract are shown in table 3 which essentially confirms the same fact. In addition to other factors as indicated by data from **Performance Assessment Tool for quality improvement in Hospitals international secretariat (PATH)** , the main reason for variation from country to country was the lack of coverage by insurance for day care procedures. Even within one country the variation between the proportions of different procedures done as day

care depended on whether there was insurance coverage for day care procedures and not on the nature of the procedure itself.

The British Association of Day Surgery has declared that the target for the near future was 85% as true day surgery, 5% as those requiring overnight stay and only 10% as those requiring longer stay in the hospital⁶. In fact three of the ten listed high impact changes for service improvement by the NHS, one pertains directly to day care surgery and two others are those which would impact the way day care surgery is practised⁷. These recommendations are,

- Treat day surgery as the norm for elective surgery
- Avoid unnecessary follow-ups for patients and provide necessary follow up in the right setting and
- Redesign and extend roles with efficient patient pathways to attract and retain an effective workforce.

It has been mentioned that the principal reason for increasing day care surgery in the UK has been allocation of additional resources for dedicated facilities and dedicated personnel for this purpose.

Indian scenario on day care surgery

As per the 2011 Indian census data, India has a total population of 1210 million with 68.9% living in rural areas and 31.1% in urban areas. Government of India spends 26.2% of the total amount incurred on health expenditure while the private sector is responsible for 73.8% (World Health Statistics, 2010)⁸. Of the total of 1.37 million hospital beds in the country, 60% are in the private sector (largely in Urban and semi-urban areas) and 40% in the Government sector (Planning Commission report, 2011). The true picture about the shortage of doctors, other health care personnel, beds and the requirement over the next decade or so is shown in Table 4⁹.

To summarize, we have in India two scenarios in the health care sector. On the one hand, we have the Government sector with its shortage of beds, surgeons, anesthesiologists and ORs serving the semi-urban or the urban poor and the rural community with no specific initiatives or incentives for promoting day care surgery and the private sector with less shortage of beds serving more informed patients from mostly urban or semi urban areas and a system which provides for professional recognition for promotion of DCS. Hence different approaches may be necessary for promoting DCS in the Government or Private sectors.

From published data it appears that the proportion of elective cases which are done as day care procedures in India is only about 10% as a rough estimate from metropolitan centers (since hard data are lacking) as opposed to 70% in USA, 30% in UK and 80% in Holland. This shows that we in India are lagging far behind the leaders in this field.

Making day care surgery safe

The first step in promoting day care surgery as a policy with tremendous advantages is to ensure that it is safe for the patient and is satisfactory from the patient's point of view. With this in mind, the Hong Kong College of Anaesthesiologists has fixed definitive criteria for selection of patients for day care surgery¹⁰. This is a modification of the original NHS selection criteria¹¹. The Hong Kong criteria says that procedures which qualify for safe day care surgery safe are procedures with

- minimal risk of post operative hemorrhage,
- minimal risk of post operative airway compromise,
- post operative pain controllable by OPD measures,
- postoperative care providable by patient himself or a responsible adult and
- minimum need for postoperative nursing requirement – either at home or by the community.

In addition to optimize patient satisfaction there should be good pain control, short waiting time, courteous staff and friendly environment, provision for continued care by the family milieu, avoidance of patients feeling that they are being discharged too early and arrangements for follow up by telephone the next day. Patients at discharge should be provided with procedure specific information, detailed instruction on medications, detailed instructions on wound care, dressing / suture removal arrangements, instructions on resuming normal activities, symptoms which may be expected commonly or uncommonly after the procedure with instructions on what to do if they appear, contact information of the surgeon and arrangements for follow up care.

Problems in and barriers to promoting DCS ⁴

Some of the problems to day care surgery have been mentioned by Robb in 2009¹². These are morning OR sessions which make it difficult for patients to reach the OR in time, post operative morbidity and unplanned postoperative admissions, delayed treatment of postoperative complications, social / geographic / medical constraints and resistance to change in the mind set of patients, nurses, surgeons and GPs. The question of post procedure complications has always

exercised the minds of patients and relatives for fear of what to do should they happen. Some of these post procedure issues have been mentioned in published data in Tables 5 and 6^{13,14,15}. These data show that the endeavor while promoting DCS should be to ensure that these untoward events are reduced to nil or negligible levels to make DCS more acceptable to patients. Choice of patients for surgery and choice of DCS as an option has, therefore, to be exercised with caution.

Other barriers to expansion of day care surgery include lack of regulatory guidelines from the Government, lack of insurance support, lack of awareness of availability of DCS as an option, inadequate information on benefits, poor health care facility design and poor organization, lack of local, home and, community support, lack of proper care giver at home, lack of proper ambience at home for post procedural care, lack of home / community nursing support and lack of a cadre of family medicine practitioners to provide for post procedure emergency care.

Other inhibiting issues pertaining to the day care surgery center include adverse publicity due to lack of standard agreed protocols, unplanned postoperative admissions, delay in treatment of postoperative complications, lack of 24 hour staffing at the center and poor connectivity to helpline.

However from the patient's perspective, overwhelming barriers are social issues such as lack of a responsible, intelligent accompanying adult willing to stay overnight with patient, lack of understanding of requirements of day care surgery, lack of easy access to any health care facility till morning after discharge in case of complications, lack of access to a reliable telephone, lack of availability of reliable transport facilities for personal follow up, if required, and lack of quality assurance with standard protocols.

Overcoming barriers to promoting day care surgery

Several lessons can be learnt from other countries which have tried and succeeded in promoting day care surgery to a large extent. Initial interest in day care procedures arose in the UK in the late 1970s and early 1980s. Thereafter promotional activities included travelling widely to promote benefits at district, regional and national meetings, forming a multidisciplinary association (BADs), Annual national meetings to share results, publication of a journal, involving politicians in meetings, publishing documents on benefits and results, collecting and disseminating references, bian-

nual meetings for sharing results and International conferences.

Other institutes have adopted a more targeted patient specific approach. For instance the Sturdy Memorial hospital, USA, brought out a booklet with detailed information on phone calls to expect prior to admission, pre-admission testing day procedures, pre-operative instructions, instructions for the day of surgery, post-operative instructions, instructions on going home – when and who will decide, amenities in hospital, contact information and directions to Sturdy Memorial Hospital¹⁶. Their approach was more aimed at increasing patient satisfaction. Both approaches have advantages and have succeeded in their goal of promoting DCS.

How to make it happen in India

In India, it has been estimated that National level Health Insurance cover exists only for about 2% of the population. This may be as high as 20% in Metropolitan centres¹⁷. Most insurance companies require a mandatory 24 hour stay for providing insurance coverage for the procedure. Recently, this has been relaxed to some extent but only for procedures performed by advancement of technique or utilization of specialized equipment such as LASER which do not require overnight stay. This small concession is hardly likely to influence the incidence of DCS.

The first step in promoting DCS in India is to ensure that regulatory guidelines are issued by Government of India for popularising DCS. These guidelines should include instructions for

- a. Making day care surgery the norm for surgical care,
- b. Ensuring Insurance participation,
- c. Inclusion of DCS in the curriculum of MBBS / MS / DNBE,
- d. Amending MCI regulation on inpatient beds so that DCS does not come in conflict with MCI guidelines on minimum bed occupancy for maintaining recognition of courses,
- e. Approval and accreditation of institutions promoting DCS,
- f. Incentives to institutions promoting DCS,
- g. Allocation of resources for promotion of DCS and
- h. Creation of dedicated facilities, particularly in rural areas.

The second step is to have workshops for training surgeons, anesthesiologists and other staff for improvement of skills and for changing mindsets, institution of a system of incentives and recognitions for those promoting DCS,

publicizing benefits of DCS using print and electronic media for recruiting community support and starting a dialogue with practitioners for recruiting them as part of the system of DCS.

At the level of the health care center and the surgeons, one has to ensure the safety of DCS. Attention has to be paid to careful selection of patients, particularly the indications for DCS, keeping in mind that the indications may vary depending on the venue (rural or urban) where DCS is being promoted, adherence to standard protocols including permissible procedures, admission criteria, details of management (Anaesthesiology, surgery, pain relief etc.), discharge criteria, follow up protocol and measures for ensuring follow up care. Attention should be paid to distance the patient has to travel, transportation and communication facilities. There has to be standard ongoing audit processes which monitor and maintain strict quality control all the above aspects.

Specific measures should include incentive to staff, provision of a dedicated helpline staffed by trained personnel, arrangements for health care in case of complications as close to the patients' home as possible and a protocol for readmissions. It might be a good idea to have an arrangement with health care facilities near the patient's home for providing emergency care or alternately have emergency flying medical squads for rural environment to bring patients with complications to the health care facility where they were operated.

Specific rural problems hindering DCS

Rural urban differences such as problems of distance, transport facilities and availability of a reliable communication system are inhibitors to providing DCS in the rural setting. In addition, other factors which influence DCS in this setting are doctor / health care facility availability, cultural characteristics of the rural population which feels that being admitted to a hospital for surgery is the norm rather than returning to one's own house after the procedure, lack of a support structure at home, a poor ambience for care at home, lack of home / community nursing service and lack of round the clock availability of GPs for immediate care are all inhibitors.

Probable solutions to rural problems include **“a horses for courses approach”** i.e. making DCS adapt to the rural environment rather than have the rural patient adapt to standard protocols of urban DCS. There should be stricter

selection criteria for patients, a reduced number of indications all with practically negligible risk of unexpected / untoward side effects and agreed standard protocols. One should endeavour to take surgery to patients i.e. shift site closer to rural community by promoting the **free standing self contained unit type of health care facility closer to the patient's home** rather than those attached to major established large hospitals, shift to 24 hours surgery rather than ambulatory care surgery, recruit support from opinion leaders in the community and make a provision for incentives to local GPs to participate in the program.

Needs of day care centers for making day care surgery safe and acceptable

In summary, several steps need to be reemphasized to make DCS safe and promotable. These are

- a. Dedicated human resources,
- b. Avoiding frequent change in personnel in DCS centers,
- c. Having well trained personnel, surgeons, anesthesiologists, nurses etc.,
- d. Having a dedicated OR exclusively for DCS,
- e. Provision for 24 hour staffing,
- f. 24 hour dedicated helpline staffed by trained personnel,
- g. Accepted standard protocols,
- h. Strictly supervised discharge criteria,
- i. Accreditation and quality assurance,
- j. Provision of detailed (vernacular) guidelines, and
- k. Establishing strong Leadership and management systems

What should not be propagated are extension of indications to more and more complex procedures, a **“have gun will travel approach”** which feels that nothing is impossible, competitive complexity of procedures to show that one is better than one's neighbour and violation of internationally accepted guidelines for DCS. Any single setback in such circumstances by generating adverse publicity would set the program back by years.

This issue has been excellently summarised by Castoro et al⁴ who mention that the 10 key recommendations in making day surgery happen are:

1. Consider day surgery, rather than inpatient surgery, the norm for all elective procedures
2. Separate flows of day-surgery patients from inpatients
3. Design day-surgery facilities according to local needs, structurally separate from inpatient facilities whenever possible
4. Provide day-surgery units with independent manage

ment structures and dedicated nursing staff

5. Take advantage of motivated surgeons and anaesthetists to lead the change

6. Achieve economies by ensuring that expansion of day-surgery facilities is accompanied by reductions in inpatient capacity

7. Invest in educational programmes for hospital and

community staff

8. Remove regulatory and economic barriers

9. Align incentives

10. Monitor and provide feedback on results (including patients' views)

This appears to be the way to go in India also.

Procedure	Unit cost saving (%)
Hernia repair	36-70
Varicose veins	40-65
Paediatric surgery	70
Orchidopexy	56
Laparoscopy	25-68
Arthroscopic procedures	20-49
Laparoscopic sterilization	62

USA, Denmark, Canada	➤ 70%
Sweden, Norway	50-70%
Finland, England, Holland, Italy	30-50%
Hong Kong, Australia, Belgium, Portugal	< 30%
France, Scotland, Germany	< 10%

USA, Canada, Denmark, Sweden, Norway, Holland, Finland, England, Australia, Belgium	➤ 80%
Italy, Hong Kong	50-80 %
France, Scotland, Germany, Portugal	30-50%

Table 4 – India’s National Health Profile (Kaushik and Vetticad, 2013)⁹				
India	2010	WHO standard	Deficiency	Additional requirement by 2020, (Technopak – 2002 report)
Hospital bed density / 1000	1.3	3.5	600,000 beds	20-25 lakhs
Doctors and Nurses density / 1000	2.2	2.5		Doctors – 8-10 lakhs Nurses 18-20 lakhs

Table 5 – Reasons for in-patient admission from day care surgery (Thompson et al, 2001)¹³	
Inappropriate surgery -No attender -Obesity -Very old patient -Anaemia etc.	17%
Surgical complications	46%
Anaesthetic complications	35%
Others	2%
Visit to physicians after discharge	5%
Call to physicians after discharge	13%
Kanerva et al, 2003	

Table 6- Post-procedure events from DCS (Wasowicz et al, 2000)¹⁴	
Readmissions (n=823 patients) -Pain +/- nausea -Operation late in the afternoon -Haemorrhage -More extensive surgery than expected -Others	8% 7% 6% 3% 7%
Complications (n=54, 7%) -Pulmonary embolism -Re-operations -Readmissions -Unscheduled OPD attendance -Visited GP -Needed extra help at home	1% 6% 6% 40(6%) 91(14%) 84(13%)
Would have preferred overnight stay	14%

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Day Care Surgery in India: Our Experience over 10 years at a Premier Day Care Surgery Institute.

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Abstract

Background

The desire to keep up with the newer developments, the increased cost of hospitalisation, many fold increase in the inflow of patients from the rural areas to the metropolitan cities for treatment, lack of hospital beds, along with the fear of the word 'Surgery', has led the surgeons to rethink the art of Day Care Surgery. Abhishek Day Care Institute and Medical Research Centre, which will soon complete 10 years in this field, is a dedicated Multi speciality Day Care General Surgery Centre. We undertake General Surgery, Minimal Access Surgery, Urology, Plastic Surgery, Orthopaedics, Vascular Surgery etc including GI endoscopies and chemotherapy. We have an experience in Ambulatory Surgery of over 20,000 cases, over a period of 10 years, which were done at our institute. This is a retrospective study of General Surgery cases performed at our centre.

Methods

The place of study was Abhishek Day Care Institute and Medical Research Centre, Mumbai, India. The data was collected comprising of patients that were operated during the period from June 2000 (when the centre opened) to March 2010.

Results

During the period of 10 years, we have performed 4506 surgical procedures, 3948 OPD procedures and 1393 Endoscopic procedures under local anaesthesia and some form of sedation. We report that day care surgery is a safe and effective means of economic and fast track surgery.

Conclusions

Lack of hospital beds, long waiting lists, increasingly expensive health care system, virtually non existent medical insurance in India, and lack of governmental funding to the private sector of health care points to day care surgery being the only answer for common treatable surgical problems in the future. 'Whether this patient should be sent home', needs to be changed to: 'Does this patient even need to be admitted?'

Background

The desire to keep up with the newer developments, the increased cost of hospitalisation, many fold increase in the inflow of patients from the rural areas to the metropolitan cities for treatment, lack of hospital beds, along with the fear of the word 'Surgery', has led the surgeons to rethink the art of Day Care Surgery. Abhishek Day Care Institute and Medical Research Centre, which will soon complete 10 years in this field, is a dedicated Multi speciality Day Care General Surgery Centre. We undertake General Surgery, Minimal Access Surgery, Urology, Plastic Surgery, Orthopaedics, Vascular Surgery etc including GI endoscopies and chemotherapy. We have an experience in Ambulatory Surgery of over 20,000 cases, over a period of 10 years, which were done at our institute. This is a retrospective study of General Surgery cases performed at our centre.

Introduction

Day care surgery or Ambulatory surgery is not a new concept to Indian surgeons, the ancient Ayurvedacharya, Shushrut, in his work, mentions the use of ambulatory surgery centuries ago. Girnar Rocks maintain the concepts of hospitals in Ashok's Period. With the advent of Modern Medicine, the ancient art died a natural death. The change in the concept of surgical practice and the introduction of Private Practice has lead surgeons to find ways and means to refine and redefine their art and to make it more patient friendly.

The desire to keep up with the newer developments, the increased cost of hospitalisation, many fold increase in the inflow of patients from the rural areas to the metropolitan cities for treatment, lack of hospital beds, along with the fear of the word 'Surgery', has led the surgeons to rethink the art of Day Care Surgery. In the west, the concept of day care surgery has been in place for over 4 decades. More and more doctors are exposed to the 'latest' developments in medicine and find financing for the purchase of the equip

ment or get training in the newer modes of diagnostic or therapeutic skills.

As of now, the modern concept of day care surgery is growing, with centres dedicated to this concept coming up at a rapid pace and surgeons willing to practice this art. As a result, there is greater acceptance of the idea of being discharged on the day of surgery.

Abhishek Day Care Institute and Medical Research Centre, which recently completed 10 years in this field, is a dedicated to Day Care General Surgery only. We have an experience in Ambulatory Surgery of over 20,000 cases, over a period of 10 years, which were done at our institute. This is a retrospective study of cases performed at our centre.

Methods

The place of study was Abhishek Day Care Institute and Medical Research Centre, Mumbai, India. The data was collected comprising of patients that were operated during the period from June 2000 (when the centre opened) to March 2010.

Patient selection criteria:

- Age: more than 6 months old.
- Medically fit and stable patients {ASA I, II, III (well controlled)}.
- Well motivated and psychologically / mentally stable.
- Toilet, transport, telephone and responsible relation at home.

Patient preparation:

- Examination & diagnosis.
- Investigations (Haemogram, Blood Sugar, HIV, HBsAg, Urine, Stool, X-ray Chest, USG).
- Medical fitness (Physician/ Cardiologist/ Diabetologist/ Anaesthesiologist).
- 4 hours fasting except in Laparoscopic Surgery
- Bowel preparation when required (Laxatives, enemas)
- Advise regarding pre-operative Medications (Inj. Tetanus Toxoid, Anti-Hypertensive, to stop Aspirin at least 2 days before surgery).
- The use of alprazolam or any other mild sedative given on the previous night, to help in reducing the anxiety of the patient.

Anaesthesia used:

Local anaesthesia in most cases along with some form of sedation if necessary

Blocks regularly used:

- Pudendal.
- Ring.
- Field.
- Inguinal.
- Scrotal / Cord.
- Costal.

General anaesthesia (for major surgeries only):

These would include Diagnostic Laparoscopies, Laparoscopic /Laparoscopic Assisted / Open Appendectomy, Mesenteric Lymph Node Biopsies, Laparoscopic Varicocele surgery etc. Mainly used were short acting drugs and I.V. sedation (Midazolam, Small Doses of Ketamine).

Criteria for discharge:

- The patient is fully conscious.
- Haemodynamically stable.
- No giddiness on standing.
- Able to walk without support.
- Tolerating orally without vomiting.
- No or minimal pain.
- Passed urine.
- Responsible person is present to take the patient home.
- No surgical complications.

On discharge:

- Written instructions.
- Verbal instructions.
- Contact numbers of all our team, including the operating surgeons, in case of any questions and complications.
- Instruction on how to look for complications and its management.

Results

During the period of 10 years, we have performed 4506 surgical procedures, 3948 OPD procedures and 1393 Endoscopic procedures under local anaesthesia and some form of sedation.

The types of procedures done along with their numbers are detailed in Tables 1-3.

Complications:

Appendicectomy: 6 patients (14.2%) had to be hospitalised overnight.

Haemorrhoidectomy: 5 patients (1.11%) had to be hospitalised for secondary bleeding, managed conservatively, no transfusion had to be given.

Bilateral hernioplasty: 1 patient (1.6%) had to be admitted due to excessive drowsiness.

8 male patients, with underlying Benign Prostatic Hypertrophy, had to be catheterised post operatively, as they went into retention. The patients were given a trial before discharge and if unsuccessful they were discharged with the catheter which was subsequently removed the following morning.

Discussion

The History of Day Care or Ambulatory Surgery is as old as medicine itself. Ancient instruments and evidence of Ayurvedacharya Shushrut's work have been recorded long before modern medicine took birth. Nowadays, with improved knowledge surgical fields accompanied with good surgical skills and newer anaesthesia drugs, it is possible to provide more benefits to patient as well as the surgeon. The availability of Minimally Invasive Surgery along with ever evolving technology in all fields has led to safer day care surgery⁸.

Definitions of Day Care Surgery have varied from country to country, The Day Surgery Operational guide, issued by the Department of Health, U.K., has described Day Surgery as: the admission of selected patients to hospital for a planned surgical procedure, returning home on the same day. True day surgery patients are day case patients who require full operating theatre facility and / or a general anaesthetic, and any day cases not included as outpatient or endoscopy¹.

The American author of the book 'Major Ambulatory Surgery', by Dr. James E. Davis, describes day care surgeries as Minor Ambulatory surgery or outpatient surgery, as that care provided to non-hospitalised patients with immediate discharge of the patient; in such cases local anaesthesia is almost invariably used. Major Ambulatory surgery is defined as that surgery done under general, regional or local anaesthesia in which a period of postoperative recovery and / or observation is utilized before the patient is discharged home later the same day². These include cases hospitalised up to 23 hours from the time of admission.

Factors relevant for the success of day care surgery

Day care surgery demands the highest standards of professional skills and organization. Although, the operations could be minor, an anaesthetic is never minor. Listed below are some of the factors relevant for the success of day care Surgery⁷.

- a. Patient selection
- b. Patient information
- c. Preoperative assessment / tests.
- d. Proper anaesthetic and post anaesthetic care
- e. Patient acceptability
- f. Audit

Patient Selection

This is the key to the successful day care surgery. Selection is not simply a matter of choosing patients with conditions that may be treated on a day care basis, but also involves shifting out those patients who are unsuitable for medical and social reasons. Expected duration of surgery is also an important determinant of patient selection. Federation of Ambulatory Surgery Association (FASA) concludes: that

incidence of complications is related to the duration of surgery and anaesthesia. In surgeries lasting for less than 1 hour, the complication rate is 1 in 55 patients and in surgeries of 2 hours, it is 1 in 55 surgeries³.

b. Patient Information

Comprehensive and well presented information using lay terminologies for patients and their relatives is essential for the success of day surgery. Day Care patients, unlike in-patients, do not have ready access preoperatively and postoperatively to health care professionals to answer their questions and deal with their queries. As suggested by Baskerville et al⁴, the information given to patients should commence with a brief description of the condition for which they are being treated and the procedure being undertaken. This is followed by instructions regarding what patients must do before coming to the unit, the postoperative analgesic regimen, what they should do at home, and what is expected in the days following their operation. Finally, patients need advice on when they can return to various activities. Perhaps the utmost information that must be given to the patients is related to the problems that might arise at home following surgery and how to deal with those. This will include advice on self-medication and when to seek professional help.

c. Preoperative Assessment / tests

An asymptomatic low risk patient does not need a battery of screening tests unless the medical history or the physical examination suggests otherwise. In paediatrics, routine haemoglobin (Hb) evaluation and urine examination are done. In adults above 40 years, in addition to Hb and urine, ECG is also required. In older patients (patients >50 years, chest X-ray and serum glucose are also advised. The preoperative assessment should be detailed and similar to in-patients.

d. Post anaesthetic care

Several recent innovative facilities for post anaesthesia care after outpatient surgery have allowed surgeons to do more complicated surgeries on sicker patients as outpatient procedures and have made outpatient anaesthesia less risky.

In an overnight stay unit (23-hour admission unit): post-surgery patients are observed overnight but discharged the next morning, within 23 hours of surgery. This course overcomes the arbitrary limit to quality for reimbursement as an outpatient procedure.

After the operation, vital signs are monitored till the patients are ready to be discharged. A detailed discharge slip is given, including the details of the procedure / postoperative analgesia, when to remove sutures and on follow up appointment.

e. Patient acceptability

Methods of gauging the acceptability of day care surgery in patients is to look for a number of unsolicited complaints, incidence of readmission after patients have returned home, and postoperative complication rates.

f. Audit

As in other areas of practice, audit is essential to maintain and improve standards. Each unit should audit its own complication rates and patients opinion to determine the relevance of regional or general anaesthesia.

Contraindications for Day Care Surgery:

These are becoming more and rarer with the advent of newer techniques of anaesthesia and modern 'fast-track' surgery and minimal access surgery⁶.

- Medically unfit for discharge on the same day.
- Mental retardation / psychologically unstable.
- Highly infectious disease.
- Upper respiratory tract infection.(Now manageable with newer anaesthetic drugs)
- Premature or less than 6 month old babies.
- Requiring extensive post-op monitoring.
- Long distance from home. (Possible if living close to a hospital/nursing home)
- Shock / trauma.
- High fever.

Our Set-Up

We have a dedicated day care centre consisting of 7 beds, Endoscopy room, consulting and examination rooms and a fully equipped operating theatre. Staffing includes 2 general surgeons and an anaesthetist, 2 junior doctors, who work in shifts and are trained by us to manage Day surgery cases, 3 nursing staff, 3 auxillary staff and a manager and receptionist. The Co-authors have experience of more than 30 years with over 25000 surgeries performed to his credit.

Procedure:

Most of our patients were operated under local anaesthesia and sedation. We extensively use local blocks and sedation is given in the form of Midazolam, Pentazocin, and/or Ketamine. The combination given by our anaesthetist, is just to cover the pain at the time of its injection, after which, we prefer our patient to be conscious and awake. Once the local anaesthesia has acted, there is no pain and patient's apprehension is reduced. Local anaesthetic used is usually 2% lignocaine with or without adrenaline and 0.5% bupivacaine, mixed in equal amounts, injected through a 27 G needle. History of sensitivity is taken prior to surgery and/or test dose is given on the table.

Skin crease incisions are taken wherever possible, with minimal dissection as required. Closure is achieved with subcuticular fine absorbable suture material.

The patient is mobilized immediately and given oral intake within 30 - 120 minutes.

The patient is sent home after a maximum stay of 8 hours. A regular follow up record is kept. 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.

Conclusions

Day surgery seems to be the answer to many of our problems (including some that you will recognise) - lack of hospital beds, long waiting lists, an increasingly expensive health care system, virtually non existent medical insurance and a lack of governmental funding to the private sector of health care. Day Care surgery is a cost effective proposition, even in public hospital set up⁵. Over the years, more and more cases have been added to the Day care list; still more needs to be done. Some of the doctors, including Surgeons, do not know that certain cases can be done as Day Care Surgery. We have just a handful of these dedicated day care centres in India, mostly located in bigger cities. There is a need for more and more dedicated day care centres admitting patients and discharging from their facilities directly, which is more convenient. Involvement of the referring doctor, especially the general practitioner, is invaluable; they are very beneficial in making sure that the patient follows the pre-operation instructions and help in the post-operative management.

There is an urgent need for increasing awareness among the medical, as well as, non-medical fraternity. This can be achieved by proper sharing of information on day care procedures with general practitioner and other referring doctors; carefully selected and well-motivated patients; no hospitalisation and early ambulation; skilled surgery and meticulous follow up; ensures good results, which are comparable, and even superior to hospitalised surgery. We had tried to take it as a mission to spread day care movement across the country so that our health care system could implement and benefit our colleagues. With this aim the Indian Association of Day Care Surgery was started in 2003 with a membership of 36 people which has crossed over 300 to date. Lack of hospital beds, long waiting list, increasingly expensive health care system, virtually non existent medical insurance, lack of governmental funding to the private sector of health care, day care surgery seems to be the only answer, for the future⁹. 'Whether this patient should be sent home', needs to be changed to: 'Does this patient even need to be admitted?'

Competing interests

The authors declare that they have no competing interests.

Table 1 - Day Care Surgeries

Type of procedure	Number of cases
1. Breast lump excision.	133
2. Herniae:	
- Inguinal.	332
- Femoral.	05
- Umbilical.	49
- Inscisional	25
3. Hydrocele.	133
4. Varicocele.	69
5. Vasectomy.	27
6. Haemorrhoidectomy (Open / Stapler).	2370
7. Fistula-in-ano.	261
8. Fissure-in-ano.	312
9. Pilonidal sinus excision and closure.	87
10. Abscess drainage.	336
11. Diagnostic laparoscopy.	38
12. Laparoscopic Varicose vein ligation.	14
13. Appendectomy.	113
14. Gynaecomastia Excision.	21
15. Circumcision.	51
16. Lymph node biopsy.	130
Total	4506

Table 2 - Office Procedures

Cases Considered as OPD Procedures	Number of cases
1. Toes nail excision.	83
2. Biopsy:	
- Muscle biopsy.	16
- Skin biopsy.	49
- Nerve biopsy.	00
3. Lipoma excision.	241
4. Sebaceous cyst excision.	278
5. Warts excision.	141
6. Corn excision.	70
7. Auroplasty.	94
8. Piles:	
- Sclerotherapy.	1,848
- Cryosurgery.	168
- Infra red coagulation.	523
- Crypts / papilloma excision	176
9. Ganglion excision	23
10. Hypospadiasis correction (adult)	07
11. Ascites / pleural tapping.	19
12. CLW	110
13. FNAC	102
Total	3948

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Day Care Laparoscopic Appendectomy

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SUMMARY

Appropriate accreditation, safe anesthesia protocols, and proper patient selection constitute the basis for safe and efficacious day care laparoscopic appendectomy. Day care surgery has several potential benefits over hospital-based surgery, including cost containment, ease of scheduling, and convenience to both patients and surgeons. To demonstrate the safety of early postoperative mobility and early discharge after laparoscopic appendectomy in a day-care setting, a prospective, nonrandomized study was conducted at Vijay Hospital and Day Care Surgery Centre, Chalisgaon and Santosh Day Care Surgery centre, Nashik during a period of 66 months, from May 2009 to Oct 2014. A standard anaesthetic, analgesic and antiemetic protocol was used. A total of 600 patients underwent laparoscopic appendectomy under general anaesthesia. Mean age of patients was 22 years (range 05-60 years). Most patients were mobilized within 2 hours after surgery. There were no post operative complications. 220 (36.8%) of them were selected for outpatient laparoscopic appendectomy and all (100%) were discharged from hospital on same day of surgery. All cases were discharged within 24 hours of surgery with average length of stay of 16 hours (380) patients. There were no re-admissions in my study. All the patients were happy about early discharge. Early postoperative mobility and early discharge following laparoscopic appendectomy under general anesthesia is possible and safe and can be practiced in uncomplicated cases of appendicitis. Patients find it acceptable and it appears safe.

INTRODUCTION

Day care surgery is defined as ambulatory surgery, wherein, the operated patient recovers from surgery and is fit to return home within a day (24 hours).

Day care surgery allows a person to return home on the same day that a surgical procedure is performed. In an overnight stay unit (23-hour admission unit), operated patients are observed overnight but discharged next morning, within 23 hours of surgery. This course overcomes the arbitrary limit to reimbursement as an outpatient procedure.

An ideal setting for day care surgery would be hospital based, supported by well equipped operation theatre, recovery room, postanaesthesia care room and specially trained staff. In addition a strong social backup with satisfactory transport and telecommunications system and involvement of family physician is desired.

Day care laparoscopic surgery has developed over the past

3 decades for a number of following reasons: Improved surgical instruments, less invasive surgical techniques, a team approach in preparing a person for surgery and home recovery that involves both a surgeon and an anaesthesiologist newer anaesthesia practice and newer anaesthesia drugs allowing patients to recover faster, technology has offered sophisticated monitors to monitor patients more carefully during anaesthesia, modern painkillers provide better post-operative analgesia and the desire to reduce health care costs.

Acute Appendicitis is one of the most common conditions requiring surgical intervention and afflicts one in seven individuals. Laparoscopic techniques are increasingly used for surgeries that traditionally have required open approaches. A German Gynecologist, Kurt Semm first performed laparoscopic appendectomy in 1981 and since then laparoscopic appendectomy has struggled to prove its superiority over the conventional open surgery. Advantages of laparoscopic appendectomy include improved wound healing, better cosmesis, reduced post operative pain and ultimately earlier discharge from hospital. There are large series of studies showing that laparoscopic appendectomy is

safe and scores over open appendectomy.

MATERIAL AND METHODS:

A prospective, nonrandomized study was conducted at Vijay Day Care Surgery Centre, Chalisgaon and Santosh Day Care Surgery Centre, Nashik during a period of 66 months, from May 2009 to Oct 2014.

600 consecutive patients with a clinical diagnosis of acute appendicitis were included in the study. Acute Appendicitis was diagnosed on clinical examination, ultrasonography of abdomen / pelvis and lab investigations. Patients with uncomplicated appendicitis were considered for day care laparoscopic appendectomy. Details regarding the day care procedure and anaesthesia were explained to the patient. Written informed consent was obtained from all the patients.

Criteria for case selection were cases with recurrent, sub-acute, acute and chronic appendicitis. Only non-toxic, medically fit and stable {ASA I & II}, well motivated, psychologically / mentally stable patients, accompanied by competent and responsible relative or care taker were selected in our study. Patients with appendicular lump and perforation were excluded from our study.

Elective cases were admitted early morning and operated as first case. 220 cases were operated electively as first case and tried for same day discharge. Emergency cases with acute appendicitis and acute pain were operated on emergency basis after work up on the same day of admission. These emergency cases (380) was operated later in the day.

All the patients underwent laparoscopic appendectomy under general anesthesia. A standard anaesthetic, analgesic and antiemetic protocol was used. The protocol included premedication with Ranitidine, Ondansetron and Dexona as emetic agents and Midazolam as sedative and anxiolytic agent. Induction was done by Glycopyrrolate i.v., and Fentanyl (3 micro gm /kg) i.v., and Propofol (1-1.5 mg/kg) i.v. Relaxation was rendered by Atracurium (0.3-0.5 mg/kg) i.v. Maintenance was done with O₂, Nitrous oxide gas and Isoflurane. Atracurium and Fentanyl were given when required. Regular monitoring of hemodynamic parameters including pulse rate, blood pressure, oxygen saturation, and electrocardiogram was done. ETCO₂ was monitored. Surgical approach included three ports (one 10 mm and two 5mms). If required blunt dissection was done to identify the appendix. After ligation of base, appendix was divided and delivered through 10 mm umbilical port. The stump was cleaned. Bupivacaine 0.5 % is instilled in the peritoneal cavity. Peritoneum was deflated, trocars were removed and the port incision was closed aseptically. Paracetamol and Diclofenac were used intravenously as per requirement. Postoperatively patient was monitored for vitals, Postoperative complications, morbidity, total hospital stay,

and complications in follow-up. Intensity of postoperative pain was recorded on the Numeric Pain Rating Scale. The patients were asked to make pain ratings corresponding to current, best and worst pain experienced during the hospital stay period. Ratings of pain intensity were 0 for no pain, 1 to 3 for mild pain, 4 to 6 for moderate pain and 7 to 10 for severe pain.

All the patients were ambulated as soon as possible. Oral fluids were started within two hours of surgery.

Criteria for discharge:

- (a) Stable vital parameters
- (b) No new signs or symptoms after the surgery
- (c) No nausea or vomiting
- (d) Mild pain controllable with oral analgesics.
- (e) Passed urine
- (f) No surgical complication
- (f) Able to walk comfortably without assistance.
- (g) a responsible escort.

All patients were provided a set of instructions regarding diet and were asked to report in case of excessive pain, nausea / vomiting, constipation/diarrhoea, distension of abdomen, and discharge or redness at port sites.

Overnight stay was considered in cases where recovery was not proper, patient had complications like excessive pain or vomiting, or the hours was too late in evening, and social issues (issue of transport or family not willing to go home). Duration of surgery, length of stay after surgery, post discharge visit, readmission and complications were collated. Family physician was involved whenever possible. Patient was followed up on ninth postoperative day to remove the sutures and a follow-up interview was recorded.

The age group of patients was from 5 to 60 years and 396 patients were male with average age of 22 years.

OBSERVATIONS AND RESULTS:

All 600 patients with uncomplicated appendicitis were found eligible for discharge and were discharged within 24 hours of operation. All 220 patients selected for same day discharge and operated electively as first case in morning were successfully discharged from hospital on same day with average length of stay of 6 hours (range 5 to 8 hours). The average length of stay for the remaining patients was 16 hours (range 15 to 22 hours). The average operating time was 45 minutes. (Range 30 to 75 minutes).. There was no significant effect of duration of surgery regarding postoperative complications and duration of ambulation after surgery. All patients were mobilized within 2 hours after surgery. Oral fluids were started within 2 hours of surgery in all the cases. There were no intraoperative complications. There were no significant postoperative complications except for pain. Post

operatively all patients had mild tolerable abdominal/shoulder pain, (Numerical pain rating score 1-3).

There were no re-admissions in our study.

All the patients were followed up on ninth postoperative day and sutures/staples were removed. During follow-up all patients complained of mild pain (Score 1-3 Numeric rating scale) for 2 days. All patients returned to full routine activities within 7 days.

All the patients were happy about early discharge.

All patients were satisfied with the information given and aftercare provided. All would recommend it to a friend or relative and would undergo the procedure as a day case again.

DISCUSSION:

Day care surgery is now a global trend. More than 60% of surgical procedures in the United States are currently performed as outpatient surgeries. Health experts expect this percentage will increase to nearly 75% over the next decade. In the UK the NHS plan, published recently predicts that 75 per cent of elective surgical procedures will soon be conducted as day cases.

Also studies worldwide have shown that day care surgery delivers the same high quality care as that given to hospital patients. In fact, research has shown that day care surgery centers are actually safer than hospitals.

Day care surgery is economical as well. In USA a saving of 15-30 % and in UK a saving of 40% in the cost has been reported with the day care surgery.

Appropriate patient selection lowers the failure rate. Patients with ASA grade 1 and 2 are ideal for selection in Day care surgery. I followed the same and this resulted in successful adaptation of DCLA in 100% of patients. In my study, unplanned readmission or follow-up rate was zero. This was possible due to proper case selection.

In the study of Schrieber, 78 cases of acute and sub acute appendicitis were tried for outpatient laparoscopic appendectomy. Cases with severe sepsis or peritonitis were excluded. Five postoperative complications (4 cases of peritonitis and one case of stump insufficiency) were found and treated by laparotomy (1). In the study by Brosseuk and Bathe, two (4%) of the fifty-two patients who underwent laparoscopic appendectomy had significant complications, one of them required reoperation for intra-abdominal abscess. Thirty-nine (75%) of the laparoscopic appendectomies were done as day care procedures (2). Alvarej and Voitek found that there were no readmissions for wound infections or postoperative abdominal abscesses. They con-

cluded that over -half of patients with appendicitis can be managed as outpatients without jeopardy to outcome (3). In the study of Akhlak Hussain, thirty patients of acute appendicitis were tried for outpatient laparoscopic appendectomy. 87 % patients were discharged on same day of surgery and 13% patients were discharged on the next day. There were no significant postoperative complications except for tolerable pain in all patients and mild to moderate nausea in 80% cases (4). In the present study, 220 cases out of 600 cases (36.66%) were selected for outpatient surgery and all 220 (100%) were discharged on same day of surgery and there were no significant complications except for mild tolerable pain in all the cases.

The control of pain is crucial for the provision of good day-case anaesthesia. Good post-operative analgesia requires planning and a multimodal approach (6). Appropriate analgesia protocol is essential for successful discharge in Day care surgery. There is a trend away from opioid analgesics as they are associated with PONV (post operative nausea and vomiting) that results in patient dissatisfaction and delays discharge. Oral / parenteral analgesics have a higher success. Intraperitoneal instillation of 0.5% Bupivacaine and its local infiltration at sites of port entry provides adequate postoperative analgesia and minimizes the need of other analgesic support (7-8). Paracetamol, Diclofenac and Bupivacaine were used in my study. All the patients had mild tolerable pain which was controlled by analgesics successfully.

For success of day care surgery, familiarity with the procedure is essential. My team has perfected the technique and has performed over 600 such procedures. Currently my mean operative time is 45 minutes (Range 30 - 75 minutes). In the study by Akhlak et al, operative duration was averaging 51 minutes (range 35-80 minutes) (5.) In the study by Alkhoury et al, the average operative time for laparoscopic appendectomy was 23 minutes (range, 6 -61 minutes) in the same day discharge group versus 22 minutes (range, 10-77 minutes) in the overnight admission group (5). In the present study, overnight stay occurred in cases with the length of operation lesser than the average duration. Thus, it can be concluded that in surgeries of duration less than a one and half hours, the duration of surgery does not significantly affect the timing of discharge (5).

Overnight stay is usually a joint decision made by the surgeon, the patient, and his attendants. as patient has to participate in self-care after discharge, their comfort, preference, and safety need to be considered in the assessment for discharge, In the above study, 380 patients stayed overnight

because the hour was too late for discharge in (75%) and social reasons (25%). None of the patients was admitted for overnight for medical reasons. The higher rate of overnight admission due to social reasons explained the fear and lack of proper knowledge among the people of lower socioeconomic status which forms the main bulk of our patients. In the study of Alkhoury et al., 45 (out of 207) patients were admitted overnight because the hour was too late for discharge in 35(77.8%), medical indications dictated admissions in 5 (11.1%), and social reasons required admission in 5 (11.1%) (5)

Many series have documented a decreased incidence of postoperative complications and a decreased incidence of wound infection after laparoscopic appendectomy (9-11). In my series, no patient developed any significant complication. Certainly, the laparoscopic approach facilitates the complete inspection of the abdominal cavity and identification of all septic foci or any significant pathology. Thus, laparoscopic approach increases the precision of diagnosis.

It has been suggested that, with increasing experience, the operative time required for laparoscopic appendectomy will decrease significantly (11). The use of nondisposable laparoscopic equipment significantly decreases the cost of laparoscopic appendectomy. Laparoscopic appendectomy has a much shorter recovery time and the patients return to a productive life sooner, thus justifying laparoscopic appendectomy. Early return of productivity saved wages of 2-3 days. Overall, the DCLA is more cost effective from traditional inpatient cases in private setup where the hospital charges, bed charges and nursing charges are higher.

The findings of my study regarding the effectiveness of laparoscopic appendectomy as day care procedure are consistent with previous researches. My study demonstrated that day care laparoscopic appendectomy is safe with high success rate in carefully selected patients with uncomplicated appendicitis and has the advantages of cost effectiveness. Among the agents available in India, Propofol and Isoflurane/Sevoflurane have increased the ability of the anaesthesiology to provide a successful day case experience. Because of the rapid onset and offset of these agents longer cases can be planned on an ambulatory basis and patients can recover quickly and can be discharged home safely. Side effects such as the "hang-over effect" can be minimized. Propofol has the additional effect of reducing PONV (post-operative nausea and vomiting) (12). Use of Ondansetron and Dexamethasone in preinduction of anaesthesia minimizes the symptoms

of postoperative nausea effectively (13-14)

There are a number of scoring systems to assess readiness for discharge. These use a variety of parameters such as level of consciousness, breathing, circulation, activity level, complications and mobility. A set of guidelines has also been set for such an assessment. It is also important to consider the patient's mental state when discharge is considered. They should feel ready to go home. Discharging the patient against his/her wishes could have serious consequences.

CONCLUSION:

Early postoperative mobility and early discharge following laparoscopic appendectomy under general anaesthesia is possible and safe and can be practiced in uncomplicated cases of appendicitis.

This study suggests that day-case laparoscopic appendectomy is feasible.

Patients find it acceptable and it appears safe.

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Letters to Editor:

I read the article entitled "A new procedure for fistula in ano: PAL .. Per anal ligation (correction as Peri anal ligation) published April 2013-14; volume 9-10: 14-15 in Day Surgery Journal of India. I appreciate the efforts of author Pathak D U for this innovative procedure for treatment of fistula in ano. I want to discuss the following.

1. This is a short study started on 17th Jan 2014 and published in March 2014. With a total of nine cases done in two month duration, this can't be pilot study without any project following it.
2. The principles of surgical anatomy have not been followed. The incision is made on the skin and tissue overlying the probe inserted in tract of fistula in ano. As the aim of this dissection is to hook the fistulous tract followed by coring, it appears that damage to sphincters can't be assessed. The technique is used without assessing the type of fistula in ano as in anatomical (Park's) classification. In LIFT(ligation of intersphincteric fistulous tract) the internal opening is approached in the intersphincteric plane, separating the internal and external sphincter.^{1,2} This intersphincteric space is a potential space in which dissection is easy for approach to internal opening.
3. PAL technique is silent on Goodsall's Rule particularly the circular tracts opening posteriorly and horse shoe shape fistula in ano. Selection criteria for this procedure should have been described as so many modalities are available for treatment of fistula in ano; each has its own selection criteria.
4. The technique should have been discussed in comparison to LIFT and mucosal flap technique.^{3,4} Both these techniques are standard techniques aimed at closing the internal opening. After comparing with these techniques, the ease of method for PAL should have highlighted.
5. With two month study period, healing period of 20-40 days have been mentioned. It is impossible to compare results of faecal incontinence and recurrence with technique like LIFT.⁶
6. Nothing has been elaborated in PAL as day surgery procedure. No references have been made.
7. Economics of PAL has been compared to VAAFT and LIFT. LIFT has been practised by me for last two years as day surgery procedure with no extra costs compared to PAL. VAAFT is endo surgery procedure with initial cost of equipment.⁵

So this innovative procedure of PAL needs defining the surgical anatomy and defining the technique lest it becomes acceptable to surgical fraternity.

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Respected Editor Sir,

Thanks for your keen interest taken for PAL.

Reply to your queries:

1. Now it is SLOFT (Submucosal Ligation Of Fistula Tract) because PAL did not signify the anatomical location of ligation.
2. The incision is in mucocutaneous junction near internal opening, here the tract is superficial and at fixed position. Here there is no question of damage to sphincter.
3. Precisely the anal duct is ligated in SLOFT, hence it can be done also in immature tract of even abscess, where LIFT is not possible.
4. About Parks classification, not needed as the ligation is at the same place. Who bothers now for the classification of direct or indirect hernia?
5. In horse shoe variety, probing can be done from internal opening to distally, as we need only 1.5 to 2.0 cms out. A reverse fistula probe is available. Distal tract is your choice - to curette, do VAAFT or core it out, as the case demands
6. Economically it is at par to LIFT, but LIFT is not reproducible in hands of an average general surgeon. Similarly the mucosal flap is also technically demanding and it has to bear the 16 times pressure in ano rectum while defaecation.
7. Now with 80 cases over the period of mean follow up of 4 months, we had 7 recurrences and no incontinence.
8. More information and videos on SLOFT are available on net if one types Fistula in ano + SLOFT in google, slideshare, facebook or youtube search bar.

Your guidance is needed for the refinement of this new technique.

Regards

Dr. D. U. Pathak

Jabalpur

Information to Contributors

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

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