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Gynaecological Surgery in Rural set up- Intraoperative and Postoperative Complications

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Abstract

Gynaecological surgeries are increasing in spite of growing trend towards endoscopic surgeries. Both abdominal and vaginal hysterectomies are being done for various indications, more so in rural based hospitals. In our rural based medical college hospital more than 400 hysterectomies were done in last 2 years for various indications.This study analysis various intra and postoperative complications in those surgeries, mostly hysterectomies, predisposing factors and causes for them and how we managed them. In a period of 2 years [Oct.2012 to Sept.2014], 200 abdominal and 225 vaginal hysterectomies done in this hospital for menstrual abnormalities including DUB, fibroids, Uterovaginal prolapse and adenomyosis. Intra-operative bleeding [65], bladder injury [06], bowel injury[02],paralytic ileus[17], wound sepsis[35], burst abdomen[01], DVT[02], postoperative retention of urine[12] etc. were common complications.

Pre-existing anaemia, diabetes , hypertension, cardiac disease, previous surgeries, urinary tract infections, obesity, lung infections etc. were some of the predisposing factors for those morbidities while more vascularity, fibrosis, operating in wrong plane, bowel and bladder adhesions, obesity, compromised instrument quality, inadequate relaxation, overcrowding in OT, inadequate light in OT, frequent shut downs while operating, longer duration for surgery etc. were common causes for the complications during surgery.

Although there was no mortality in this study, requirement of blood transfusions, higher antibiotics, frequent dressings, resuturing, increased hospital stay, frequent catheterisation etc do require some thinking and consideration. Proper selection of case, timing of surgery, improving surgical skill, hospital infrastructure, and operation theatre facilities can be of some help in decreasing those complications and improving results.

Key words: Abdominal Hysterectomy; Vaginal Hysterectomy; Intra and Post Operative Complications.

Introduction

The gynaecological surgery like abdominal and vaginal hysterectomies , sling operations, Fothergill's operation, Wertheims hysterectomy etc. are done in a large number in a rural set up where endoscopic surgery is not popular or available. Those surgeries are associated with some or other complications. This study analyses more than 400 cases of major gynaecological operations for various indications for the intra-operative and post-operative complications and their management.

Material and methods

This analysis was carried out in a period of two years [2012-2014]and 425 major operations were studied in this analysis. We studied their indications, preoperative risk factors, intraoperative complications and postoperative morbidities. Most of the patients were followed for three months for any delayed complications.

Table 1: Indications for the surgery

SN	SURGERY	INDICATION	CASES
1	Abdominal hysterectomy	1 Carcinoma cervix	20
	Total/Pan/Radical	2 Menstrual abnormalities including DUB	66
	200	3 Fibroid uterus	62
		4 Ovarian tumours	16
		5 Adenomyosis	26
		6 Others	10
2	Vaginal hysterectomy	1 Uterovaginal [prolapse of all degrees]	160
	225	2 Menstrual abnormalities including DUB	45
		3 Adenomyosis	20

Menstrual abnormalities, fibroid and prolapse were common indications.

Associated risk factors

There was a combination of risk factors in many cases. Only 52 cases were not having any major medical or surgical illness. These cases with some risk were examined by anaesthetist, physician, cardiologist and were operated after an informed consent. They were thoroughly investigated for their disease and were operated in the presence a team of expert anaesthetist and a physician nearby with surgical ICU kept ready.

Table 2: Associated risk factors

SN	RISK FACTOR	CASES [425]
1	Diabetes	62
2	Obesity	48
3	Hypertension	32
4	Senile vaginitis	12
5	Ischemic heart disease	15
6	Previous abdominal surgeries	38
7	Thyroid disease	18
8	Anaemia [treated with blood transfusion].	46
9	Urinary tract infection	06
10	other	

This table shows various associated risk factors.

Intrapoerative bleeding was the most common problem in both abdominal and vaginal surgery. Large vascular tumours, fibrosis, adhesions, thick vaginal walls, pelvic congestion, hypertensive patients ,obesity ,chronic pelvic infection, anaemia, previous surgery induced fibrosis, wrong planes in vaginal surgery , malignancy etc were contributory factors.

Table 4: Additional intraoperative difficulties-

SN	DIFFICULTY	ABDOMINAL SURGERY	VAGINAL SURGERY
1	Adhesions ,fibrosis due to previous surgery	36	06
2	Large size of uterus ,restricted mobility of uterus, more vascularity	16	14
3	Inability to deliver uterus vaginally- large size, TO masses, adhesions, no descent	--	04
4	Atrophic vaginitis ,thick vagina- causing difficulty in getting planes	---	16
5	Large T-O masses-more time and bleeding	07	04
6	More pelvic congestion, thick oedematous cx, Large cysto-rectocele.	04	06

Those difficulties occurred during surgery causing a prolonged surgical time and bleeding. In some cases there was difficulty in opening and closing abdomen due to previous surgeries. In 4 cases vaginal route was converted into abdominal one as there was no descent and uterus could not be delivered.

Additional administrative factors-Those factors were mostly related to infrastructure and availability ; e.g. inadequate linen, water shortage, electricity problem, instrument quality and sterilisation, overcrowding in OT, rainy season problems, patient's poor hygiene etc.

Table 5: Postoperative complications

SN	COMPLICATION	ABDOMINAL SURGERY 200	VAGINAL SURGERY 225
1	Fever [more than 100 F for more than 3 days].	22	13
2	Vaginal Bleeding [50-100 ml].	07	04
3	Paralytic ileus	17	02
4	Urinary retention [after removal of catheter]	03	09
5	Wound discharge	35	00
6	Wound gape	21	00
7	Burst abdomen	01	00
8	DVT	02	01
9	Neuropathy	01	05
10	Peritonitis	02	00

Elderly patients, obesity, anaemia,large cystoceles, previous surgeries, longer duration of surgery diabetes , intraoperative bleeding, lithotomy position were mostly the predisposing factors for those complications. Those patients were managed by antibiotics, blood transfusion, resuturing, physiotherapy, Ryle's tube aspiration, electrolyte therapy and were followed up for 3 months. The hospital stay was extended in those cases than average stay of 5-7 days.

Management / Treatment of those complications

Following were the various management methods, protocols used for the management of the complications

General / preoperative management protocols / care-

a. arrangement of adequate blood transfusion before and during surgery.

b. pre and perioperative antibiotics, postoperative higher antibiotics.

c. properly controlled diabetes ,bowel preparation, skin preparation.

d. control of UTI,URTI and skin infection.

e. use of good quality instruments and making suction machine, cautery ,linen, suture material, hot water, coagulants, good quality OT table and light available before planning surgery.

f. improvement in hygine of patients.

g. follow all aseptic methods ,good linen.

h. avoid overcrowding in OT.

Intraoperative control of haemorrhage-use of cautery, coagulants, hot packs , fine sutures, ligation of uterine / ovarian / internal iliac vessel, help from surgeons if required.

In addition complications during other gynaecological surgeries like sling operations [08] , myomectomies [16], Fothergills operation[14], Tuboplasties[05], vault prolapse repair[08], were also studied. Intraoperative bleeding [12] and wound sepsis [04] were common problems.

Other studies

G. V. Soundra Pandyan, Ahmed B Zahrani et al [1] in a study over four and half years(2000 to 2005) reported 0.23 % bladder injuries during OBGYN procedures. They also reported ureteric injuries in four cases. (total 8684 procedures). Gilmour D. T. et al[2] reported 0.02 to 19.5 per 100 bladder injuries in gynaecological surgery.

Leroy R. Weeks, Shobhna Gandhi and Anil Gandhi(1997) [3] stressed the need to know the pelvic organs before surgery. They state that abdominal hysterectomy is most commonly associated with

ureteric injuries. The common postoperative complications in their series were fever, cystitis, anaemia, cellulitis, secondary haemorrhage, incisional abscess, anterior abdominal wall haematoma, bladder laceration and reaction to blood transfusion.

Aparna A. Kamat et al (2000) [4] reports 12.17% wound infection rate in elective gynaecological surgeries in a tertiary care center. They advised prophylactic antibiotics, but diabetes , obesity, smoking and route of surgery were not significant predictors in their cases. Increase in hospital stay, reoperation and rehospitalisation were the main concerns.

A Cochrane review published in 2010[5] reports estimated blood loss of 431 ml in vaginal hysterectomy and 353 ml in abdominal hysterectomy.

Guidelines from the European society of anaesthesiology (2013) [6] suggested intravenous iron to correct pre operative anaemia in women with menorrhagia and preoperative Erythropoetin to increase haemoglobin concentration. They also advised strict coagulation monitoring for gynaecological patients.

Summary and Conclusions

In spite of good improvement in blood transfusion facilities, quality of instruments, anaesthesia techniques, antibiotic policy and availability, evaluation etc. some complications do occur during and after surgery. In our set up, essentially a rural one, there are many genuine problems like infrastructure, electricity and water supply, linen availability, lesser OT assistants, autoclave problems, instrument quality and supply, a significant increase in number of cases, shortage of residents etc. We had no death in this series, so also there was no significant delayed complication. Wound gapes requiring resuturing was a major problem but there was no case requiring re-resuturing.

However proper selection of case, treatment of anaemia, control of diabetes, skin and bowel preparation before surgery, improving the technique of surgery, training of residents, improving OT facilities and supply ,good postoperative care etc will help in improving the surgical outcome and results.

Laparoscopic surgery is getting popular and available in rural area but there are problems like nonavailability of skilled surgeons, instruments and their maintainance, CO_2 etc. Open abdominal surgeries are still widely performed in small set ups , rural hospitals, medical colleges and postgraduate students need to be trained in abdominal and vaginal surgeries before endoscopic surgery.

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