INDICATIONS OF EXPLORATORY LAPAROTOMY IN TERIATRY CARE CENTER OF EASTERN NEPAL.

Shanti Subedi , Bashudev Banerjee and Anjana Sharma.

Abstract

Laparotomy is one of the commonest procedures done in gynaecology and it is a life saving measure in many of the emergency situations and its indications can be varied. The objective of this study was to analyze its indications and the frequency of their occurrence.

Material and method: The study was carried out in the department of Obstetrics and Gynaecology, Nobel Medical College from the past one year (15th August-14th August 2012).Data were analysed retrospectively using the case sheets and operative notes .

Result:

The commonest indication for laparotomy during that period was for ovarian tumour(59.45%) followed by ectopic pregnancy (27.02%).Regarding the age distribution in ovarian tumour(45.45%)were between the age of 15-30yrs,(34.09%)between the age of 30-45yrs and (20.45%)were in between 45-65years.The commonest presenting complaint of these women were mass per abdomen in (22.72%).Ectopic pregnancy being the second leading indication of laparotomy where none of them had conservative approach rather they had operative intervention. Majority was seen in the ampulla (50%) followed by isthmus (40%) and cornual (10%) regions and the left tube was found to be slightly more involved than the right tube.

Conclusion:

Majority of laparotomies done in NMCTH were for ovarian mass followed by ectopic pregnancy.

Key words: *Laparatomy, ectopic pregnancy, Tertiary care centre*

Introduction

A laparotomy or a celiotomy is a surgical procedure involving a large incision through the abdominal wall to gain access into the abdominal cavity and its indications are varied from ectopic pregnancy to ovarian pathology and peritonitis due to several reasons. t is one of the commonest procedures performed for various demands. Ovarian neoplasm is the most common pathology in females of any age group requiring laparotomy. Ovarian cancer accounts for approximately 23.0% of all gynaecological tumours and is the most fatal malignancy. They range from benign cysts to highly aggressive malignant tumours. Ovarian lesions are divided into non neoplastic and neoplastic entities according to World Health Organization (WHO) criteria. Benign ovarian cysts may occur at any point in the life but they are most common during childbearing age and constitute about 90% of ovarian tumours. Most benign tumours are cystic and findings of solid elements make malignancy more likely. Ovarian alignancies are classified on the basis of cell of origin as germ cell tumour, Epithelial tumour, sex cord tumour

and metastatic tumors. Ovarian tumours are generally difficult to detect until they are advanced in stage or size, as the symptoms are mostly vague and non-specific. Management of such patient is very crucial so as to maintain their reproductive & menstrual capabilities.

Ectopic pregnancy is a life threatening condition where the pregnancy is implanted outside the uterine cavity. More than 95% of the ectopic pregnancy occurs in the fallopian tubes and are known as tubal pregnancy. Though there are several newer modalities of treatment and advances in its early diagnosis but still it poses a significant cause of maternal mortality and morbidity. These two above mentioned are the important conditions requiring laparotomy in our institute.

Materials And Methods

This study is a retrospective analysis of the case series of all the patients underwent laparotomy over a period of one year in Nobel medical College and teaching hospital from August 15th 2011 to August 14th 2012. This study includes elective as well as emergency cases during that period.

Results

There were total of 74 patients requiring laparotomy for varied condition during a period of one year. Out of those 44 of them had ovarian mass followed by ectopic pregnancy, hemo peritoneum following Lower segment caesarean section and vaginal hysterectomy.

Table 1-Indication of Laparotomy-

Total	74
Ovarian tumour	44(59.45%)
Ectopic Pregnancy	20 (27.02%)
Hemoperitoneum	6 (8.1%)
Mesenteric cyst	3 (4.05%)
Pyoperitoneum	1(1.35%)

Regarding the age distribution of patients with ovarian mass, 20 of them were presented at the age group of 15-30 yrs& 15 at the age group of 30-45 and 9 of them at the age group of >45yrs (Table2).

Table 2-Age distribution in ovarian tumour

15-30yrs	20 (45.45%)
30-45	15(34.09%)
45-65	9(20.45%)

Considering the variety of symptoms they were presented 10 of them had mass per abdomen, mass with abdominal pain were seen in 8 of the patients, pain abdomen in 6 of them &menstrual abnormality in 6, dysmenorrhoea in 8, 2 of them had acute abdomen due to torsion of the ovarian cyst, 4 had incidentally diagnosed and out of them 1 patient had pregnancy with ovarian cyst and she was operated at 14 completed weeks of gestation (Table 3).

Table 3- Clinical presentation of ovarian mass

mass per abdomen	10(22.72%)
mass and pain abdomen	8(18.18%)
pain abdomen	6(13.63%)
dysmenorrhoea	8(18.18%)
menstrual abnormality	6(13.63%)
acute abdomen	2(4.54%)
incidental diagnosis	4(9.09%)

Ultrasound findings are depicted in Table 4 where most of the cysts were cystic followed by cyst with solid and cystic components and few with malignancy suspicion. Histological review revealed most of them were simple cyst followed by dermoid, chocolate

cyst,hemorrhagic cyst and malignancy seen in 2 of patients (Table 5) for whom staging laparotomy was done (Table 6)

Table 4: sonography findings

Cystic	24(54.54%)
Solid and cystic	16(36.36%)
Malignant suspicion	4(9.09%)

Table 5. Histological variants

Surface epithelial, Serous	18(40.90%)
Mature cystic teratoma	14(31.81%)
Endrometioma	5(11.36%)
Hemorrhagic cyst	5(11.36%)
Malignancy	2(4.5%)

Table 6. Surgical management

Cystectomy	12(27.27%)
Oophorectomy	10(22.72%)
Salpingo-oophorectomy	10(22.72%)
Total abdominal Hysterectomy and BSO	10(22.72%)
Staging Laparotomy	2(4.54%)

Table 7. Site in ectopic pregnancy

Ampulla	10(50%)
sthmic	8(40%)
Cornual	2(10%)

Another condition requiring laparotomy was for tubal pregnancy in 20 of the patients and out of them 3 had massive hemo peritoneum and landed in emergency with hypovolumic shock. None of our patient had conservative management though some of them had fulfilled the criteria for the same and the reason for this particular problem is lack of human resource and these are the patient in need of extensive monitoring. Surprisingly majority of the tubal pregnancies had involved left tube in the ampullary region (Table 7).

The mainstay of the treatment modality was salpingectomy and salpingo-oophorectomy.
6 (8.1%)of the patients had exploratory laparotomy for hemoperitoneum out of them 4 following LSCS and one of them was referred from outside following LSCS and 2 following vaginal hysterectomy. One of the post-LSCS patients died of massive hemoperitoneum and there was a massive right sided broad ligament hematoma. One had pyoperitoneum following normal vaginal delivery outside

3 (4.05%)of the patient undergone laparotomy with preoperative diagnosis of ovarian mass but turned out to be non-gynaecological malignancy which was removed but one of them had recurrence within two months of surgery and then referred to cancer centre for the needful.

Discussion

ndications of laparotomy in our institute varied from ovarian mass, ectopic pregnancy, hemoperitoneum and others. A total of 74 cases had undergone the procedure of which 44 (59.45%) had ovarian mass followed by ectopic in 20 (27.02%), 6 (8.10%) for hemoperitoneum, 3 (4.05%) for mesenteric cyst and 1(1.35%) for pyoperitoneum.(Table 1
Ovarian tumour is common in all age group. No age is exempted, though variety of tumours exists in different age group. n our study, the range of ovarian tumour is from 15-62 yrs. Peak incidence of ovarian tumour is between 21 to 40 year. Benign ovarian tumour occur in all age group where as malignant ovarian

tumours are more common in elderly. Ovarian tumours can be asymptomatic or can present with symptoms like mass per abdomen, pain abdomen, pressure effects if huge enough or menstrual disturbances though rare. n our study only 1.76% was detected incidentally. The ovarian tumour is also known as silent killer and the danger of malignant transformation is its quiet nature until and unless it is large enough to be symptomatic when it is too late for any intervention. n a study done by transvaginal sonography, among healthy asymptomatic women 6% were found to have ovarian neoplasia. The presenting symptoms of ovarian neoplasia are not specific and are often accepted by women as normal changes associated with ageing, menopause and previous pregnancy.

n our study presentation of ovarian tumour is variable and mass per abdomen was the commonest presenting symptom where as studies done in most of the western world said that bloating is commonly associated with ovarian tumours and studies done at Sir Ganga Ram and Myo Hospital Lahore and Sumaira Yasmin et al showed pain was the commonest presenting symptom. This variability may be due to our patient present very late in the course of disease.

Regarding the histological variety in our study, surface epithelial ovarian tumours were seen in 18 (40.90%) of the patient followed by Mature cystic teratoma in (31.81%) Malignancy was seen in 4.5% for whom clearance surgery were performed (Table 5, 6) the commonest type is surface epithelial one in this study which is comparable to several other studies. According to WHO classification of ovarian tumours, the most common type is surface epithelial stromal tumours (69.5%) followed by germ cell tumours (19.5%)
Second most common tumour in our study was germ cell tumour, mature cystic teratoma being the commonest (31.81%). Several other studies showed that the germ cell tumour was the most common one. However, in a study done by Prabhakar *et a12* mature cystic teratoma was the third commonest tumour.

Malignancy in our study was 4.5% seen in patients more than 45 yrs of age and serous cystadenocarcinoma being the commonest. This correlates well with other studies where maximum number of malignancy was seen in patient older than 40 years.11, 14

Likewise chocolate cyst and hemorrhagic cyst were seen in 11.36% of the patients respectively. The incidence of endometriosis is estimated between 10.0-15.0% and approximately 75.0% endometriosis arises within the ovary. Pudasaini et al study showed 5.9% cases
Of endometriosis in the ovary. Cohen *et al* also showed that the ovary is the commonest site for endometriosis.
Another common indication for laparotomy in our study was for tubal ectopic pregnancy (27.02%) and this is a common condition all over the world being a cause of maternal mortality and morbidity. Majority was seen in the ampullary region (50%) followed by isthmus (40%) and cornual (10%) regions. (Table 7)This is comparable to several other studies. Left tube was found to be commonly involved in our study whereas Porwal Sanjay et al found both the tubes were involved with equal frequency and Poonam et al found no significant difference between two tubes.
8.1% underwent laparotomy as second intervention after LSCS and vaginal hysterectomy in our study. t holds certainly a life saving measure if done and detected on time. Careful tying of the vessel, chosing right technique and appropriate ligature in the first place is as important as proper closure of all the surgical incision. Keeping drain may help in early diagnosis of hemoperitoneum. Vigilant monitoring of all the post-operative cases is mandatory.

References

1. **Merino MJ, Jaffe G**. Age contrast in ovarian pathology. Cancer1993; 15: 537-44.

2. **Haase GM, Vincour CD, Ovarian tumors.In;O' Neil JA, Rowe MI, Grosfeld JI, Fonkalsrd Ew, Coran AG,(edi)**.Paediatrics Surgery.Vol 1.5th ed. St.Louis, Mosby 1998: 513-40.

3. **Nour S, MacKinnon AE, Dickson JA**. Ovarian cysts and tumors in childhood. J R Coll Surg Edinb 1992; 37:39-41

4. **Bankhead CR, Collin SC,** Stokes- Lampard H. dentifying symptoms of ovarian cancer: a qualitative and quantitative study. Brit J. Obstet Gynaecol 2008; 115: 1008-14.

5. **Goff B, Mandel L, Melancon CH et al**. Frequency of symptoms of ovarian cancer in women presenting to primary care clinics. J Amer Med Assoc 2004; 291: 2705-12.

6. **Olson SH, Migone L, Nakraseive C et al**. Symptoms of ovartian cancer. Obstet Gynaecol 2001; 90: 75-82

7. **Vine MF, Callingaert B, Berchuk A**. Characterization of prediagnostic symptoms among primary epithelial ovarian cancer cases and controls. Gynecol Oncol 2003; 90: 75-82.

8. **Rashid S, Sarwar G, Ali A.** A clinicopathological Study of ovarian cancer. Departments of Radiotherapy and oncology Sir Ganga Ram Hospital and Mayo Hospital Lahore. J Pak Med Assoc 1998; 36; 117–25.
9. **Sumaira Yasmin,Aiman Yasmin,Mohammad Asif.**Clinicohistological pattern of ovarian tumours in Peshawar region.Journal of Ayub Medica,college,Abbottabad:JAMC 20(4):11-3.

10. **Bhattacharya MM, Shinde SD, Purandare VN**. A clinicopathological analysis of 270 ovarian tumors. J Postgrad Med 1980; 26: 103

11. **Ahmad Z, Kayani N, Hasan SH, Muzaffar S, Gill MS**. Histological pattern of ovarian neoplasm. Pak Med Assoc 2000; 50: 416-9.

12. **Prabhaker BR, Maingi K**. Ovarian tumours-prevalence in Punjab. ndian J Pathol Microbiol 1989; 32: 276-81.

13. **Ahmad Z, Kayani N, Hasan SH, Muzaffar S, Gill MS**.Histological pattern of ovarian neoplasm. Pak Med Assoc 2000; 50: 416-9.

14. **Jha R, Karki S**. Histological pattern of ovarian tumours and their age distribution. Nepal Med Coll J 2008; 10: 81-5.

15. **Singhal SR, Rattan KN, Nanda S, Singhal SK**. **A** 9- year review of ovarian masses in children and adolescents. J Gynecol Surg. 2008; 24: 113-6.

16. **Koonings PP, Campbell K, Mishell DR, Grimes DA**. Relative frequency of primary ovarian neoplasms: a 10 year review. Obstet Gynaecol 1989; 74: 921-6.

17. **Callahan TL, Caughey AB**. Blueprints Obstetrics and Gynecology, 5th edition, Lippincott Williams & Wilkins 2008: 163.

18. **Blaustein A, Kurman RJ. Kurman** Blaustein's Pathology of The Female Genital Tract, 5th edition, Springer 2002: 767

19. **S. Pudasaini, M. lakhey,S.Hirachand, J.Akhter, B. Thapa**.A study of Ovarian cyst in a tertiary hospital of Kathmandu valley. Nepal Med Coll J 2011;13(1):39-41

20. **Cohen M,Quilichini J, Boubli L, Blanc B**. Sites of endometriosis. Rev Prat 1990; 40: 1091-6.

21. **Priti S Vyas, Pratibha Vaidya**. Epidemiology, Diagnosis, and management of ectopic pregnancy-an analysis of 196 cases. http://ww.bhj.org/journal/ 2000_4203_jul00 /original_458.htm.

22. **Porwal Sanjay et al.** ncidence, trends and risk factors for ectopic pregnancies in a tertiary care hospital of Rajasthan.JPBMS,2012,16(07):1-4

23. **Poonam, Uprety D, Banerjee B**. Ectopic Pregnancy- two years review from BPK HS, Nepal. Kathmandu University Med J (KUMJ). 2005,Oct-Dec,3(4):365-9.

Address of Correspondence: *Dr. Shanti Sunuwar Subedi*, Assistant professor, Department of Obstetrics and Gynaecology, Nobel Medical college, Biratnagar, Nepal