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ORIGINAL RESEARCH

Spectrum of ovarian lesions in a rural tertiary health care centre

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Abstract

Aim: The aim of this study is to highlight the histopathological synopsis of ovarian lesions with emphasis on functional ovarian cysts and to compare our study with findings of other centers.

Materials and Methods: Hematoxylin and eosin stained- slides of ovarian biopsies diagnosed at the Index Medical College and Research Centre, Indore, M.P. India over the period of three years.

Results: A total of 117 ovarian cases were reviewed. Of this, 87 (74.35%) were nonneoplastic and 30 (25.64%) were neoplastic tumors. Out of the 117 nonneoplastic (follicular cysts) lesions, simple cyst lesions was the most commonly encountered, constituting 49 (41.88%). The peaks age incidence for nonneoplastic and benign neoplastic lesions occurred in the 4th decade. Two peaks age incidence was noted for malignant tumors 3rd to 5th decades. Epithelial cell tumor constituted the most common neoplastic ovarian tumor (n = 20; 17.09%) diagnosed.

Conclusion: Functional ovarian cysts were the most commonly encountered ovarian lesions in our locality. The most common variety of functional cyst was Follicular cyst and simple serous cyst with majority occurring in the reproductive age groups. Among the ovarian tumors, Epithelial cell tumors were the most commonly seen.

Key words: Follicular cyst, simple serous cysts, luteal cysts, ovarian lesions.

Introduction

Ovary is an important organ and is concerned with progeny production. The ovary consists of totipotent sex cells and multipotent mesenchymal cells. So when it becomes neoplastic, almost any types of tumour can thus result[1]. Both ovarian neoplastic and non-neoplastic lesions posses a great challenge to gynecological oncologist. Some non-neoplastic lesions of the ovary usually present as a pelvic mass and mimic an ovarian neoplasm. Therefore their proper recognition and classification is important to allow appropriate therapy[2]. Ovarian cancer is the seventh leading cause of cancer death (age standardized mortality rate: 4/100,000) among women worldwide[3,4]. In India it comprises up to 8.7% of cancers in different parts of the country[3,4]. Histopathological presentation of ovarian tumours is variable which lead to its detection in advanced stage where neither effective surgery nor chemotherapy can be done. Incidence of invasive epithelial ovarian cancer peaks at 50-60 yr of age. In postmenopausal women about 30% of ovarian neoplasms are malignant, whereas in the premenopausal patient only about 7% of ovarian epithelial tumours are frankly malignant[5]. Prognostically ovarian tumours in women under 40 yr of age have greater a chance of recovery than older patient[6]. Most patients with ovarian cysts are asymptomatic, with the cysts being discovered incidentally during ultrasound or routine pelvic examination. Some cysts, however, may be associated with a range of symptoms, sometimes severe, although malignant ovarian cysts commonly do not cause symptoms until they reach an advanced stage.Pain or discomfort may occur in the lower abdomen. Cyst rupture can lead to peritoneal signs, abdominal distension, and bleeding that is usually self-limited[7,8]. All primary ovarian tumours tend to originate from one of the four structures that make up the composite ovarian organ notably the surface epithelial cells, the germ cells, the sex cords and the specialized ovarian stroma[1,2]. Interestingly, no other organ gives origin to a wide range of histogenetic tumours as the ovaries[3,4].

Material and methods

The present prospective clinico-pathological study of 117 cases receive from (May 2017 – April 2019) of non -neoplastic and neoplastic lesions of ovary was conducted in Department of pathology Index medical college Hospital and research Centre, Indore, M.P., India over the period of three years. Ethical approval was obtained from the hospital ethical committee. The specimens were analysed in detail macroscopically for various parameters like size, external surface, and consistency and cut sections with contents of cyst. The tissues were processed by routine processing for preparation of paraffin blocks and 3-5 micron thick sections were obtained. These sections were stained with Haematoxylin and Eosin and microscopic examination was performed. All finding the clinical and histomorphological were tabulated and analysed. All the data were analyzed using Microsoft Excel.

Results

The present study is a prospective (May 2017-April 2019) of ovarian lesion diagnosed on histomorphology of lesions on tissue sections.A total of 117cases of ovarian lesion were studied. Of these 17 (14.52%) were grouped under normal ovaries, 70 (59.82%) were grouped under cystic lesion, other lesions such as 30 (25.64%) were grouped under neoplastic lesions.Cystic follicles represented 29.88% of all the normal variants, followed by simple cyst 26.43% luteal and haemorrhagic cyst 24.13%. A total of 30 neoplasm were analysed. Epithelial tumours comprised the largest group (17.09%) followed by the germ cell tumour (05.98%) ,sex cord – stromal tumours (02.56%).Mucinous tumours were the commonest of the Epithelial tumours comprising (09.40%), followed by the Serous tumours (04.26%), Endometriod tumours and Clear cell adenocarcinoma (03.41%) were the least commonest. Out of the 07 (05.97%) Germ cell tumour seen, Benign cystic teratomas formed the largest group (05.12%),followed by struma ovarii (00.85%). In the present study, the (02.56%) sex cord - stromal cell tumours. Fibro thecoma cell tumours were thecommonest (01.70%). The commonest presenting symptom was pain in abdomen (41.02%) followed by lump (9.40%) in abdomen were found. Both the cystic and solid lesions were maximum in fourth decade (31 to 40 years) age group. Out of 117 cases of ovarian lesions studied , 80.34 % were unilateral and 5.12 % were bilateral. Amongst the 70 cases of ovarian cysts, 57.26 % were unilateral and 2.56 % were bilateral. Out of the 10 cases of benign tumours, 6.83 % were unilateral and 1.70 % were bilateral. Out of 19 cases of malignant ovarian tumours, 16.23 % were unilateral and 0.85 were bilateral. It is observed that cystic benign lesions were smaller (<10 cms) in comparison to malignant lesions, which were bigger (>10 cms) in the study.

Discussion

In this study, 70 % of the cases were reported as variations of normal ovaries. Seventeen were normal ovaries processed, were submitted together with hysterectomy specimens most of which were removed for leiomyomata. In a number of cases where laparotomy was done for an ectopic pregnancy, the surgeon presumably considered corpus luteum of pregnancy in the opposite ovary as a tumour or neoplastic cysts and removed it. Haemorrhagic corpus luteum may clinically be mistaken for an chocolate cysts of endometriosis though none was encountered in this study. On the contrary out to be Corpus luteal cysts . The majority of the cases with normal ovaries or their variants were in the reproductive age group. In current study out of 117 ovarian lesions of non-neoplastic were 70(59.82%) and neoplastic origins were 30(25.64%) evaluated to find out incidence, histogenesis and pathological features. Kreuzer GF et al[9] reported 82 (40.39%) non- neoplastic lesions out of 203 ovarian lesions and Martinez-Onsurbe P, et al[10] reported 55 (41.67%) non-neoplastic lesions out of 132 ovarian lesions. Incidence reported in our study regarding non-neoplastic lesions was higher which may be due to early marriage and pregnancy in our population as per the social norms. The non-neoplastic lesions like follicular or Simple serous cysts are the commonly encountered lesions in general

. In current study 117 cases were found out of 70 non-neoplastic lesions consisting off 26 follicular cysts (22.22%) and 23 Simple serous cysts (19.65%).Incidence of these cysts were not in concordance with to Kreuzer GF et al., (55% Follicular cyst) and Martinez-Onsurbe P et al., (55% follicular cyst).In the present study, 30 neoplastic lesions were diagnosed out of 117 total cases, most common was malignant (17.09%) followed by, benign malignancy (8.54%)of all cases. Based on histomorphological features, incidence of surface epithelial tumours were commonest (17.09%) followed by germ cell tumours (5.98%) and sex cord (02.56%).In the present study the commonest presenting symptom was pain in the abdomen (55.54%) followed by lump abdomen (27.34 %). Gastrointestinal disturbance was present in (14.51%) patient and ascites was present in (5.12 %) of all cases, whereas menstrual irregularities including post menopausal bleeding in (6.82%). The results comply well with a study carried out by Avani Patel et al[11], most common presenting symptom irrespective of the type of lesions was pain in abdomen. One case with malignancy of ovarian mass presented with abdominal mass, pain in abdomen, weight loss and nausea. Study done by Hassan S. Abduljabbar et al[12] also showed similar presenting features with most common clinical presentation was abdominal pain in 142 patients (58.2%). In the present study most of the lesions were unilateral (80.34%). Only 06 out 117(05.12%) tumors had bilateral presentation. Our findings are in concordance with other studies Prabhakar et al[13]-90.9% ; Couto et al [14] 91.25% and Thakkar et al[15]- 88.4% have reported similar incidence. Dimension of the lesions was utilized to categorize the lesions according to the size. In present study lesions ranged in size from less than 6 to more than 20 cms. It observed that cystic benign lesions were smaller (<10cms) in comparison to malignant lesions, which were bigger (>10cms). The comparative analysis with other studies Gurung P et al [16] , revealed similar results as present study were the size of non neoplastic cysts ranged from 3 cm to 12cm in diameters in comparison to neoplastic lesions which were more than 12 cms. In the present study, 70 (37.60%) out of 117 lesions had purely cystic. Solid tumors were 41 out of 117 and thus comprised (35.04%). Combined solid and cystic presentation was present in 14 (11.96 %). Study done by Amod Sawant et al [17] Grossly, it was found that benign tumours were cystic as compared to malignant, which were solid in consistency followed by partly cystic and partly solid which were mostly in malignant tumour. Patients with solid or complex ovarian tumors are at high risk of ovarian malignancy was shown in study done by McDonald JM et al[18].

Conclusion

In our study we found that the various clinical parameters such as age, presenting symptoms, sites and size of lump at one aspect and histomorphological feature of these ovarian lesions are to be considered together before arriving at the diagnosis. In the present day technique the serological markers and immunohistochemistry on paraffin sections may reveal more correct and appropriate diagnoses for better management and long term servival of these cases.

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