Teratoma of ovary in adolescent females – A Clinical and pathological study of 54 cases

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Abstract

Introduction: The aim of the study is to evaluate the incidence, frequency and histopathological pattern of the ovarian teratomas. Germ cell tumours represent early 25-30% of the ovarian neoplasms and it varies in respect to their clinical presentation and histopathology.

Materials & methods: It is a retrospective & prospective study from the department of pathology at the tertiary health centre. From august 2012 to July 2015, retrieved from the recorded files & analysed. The tissues were fixed in 10% formalin and slides were made with routine hematoxylin & eosin stain.

Results: Out of 54 cases, mature cystuc teratoma consitituted 51, 2 struma ovarii and immature teratomas of the ovary. Out of the 54 cases of teratoma, the most common histological type is the most common histological type is mature cystic teratoma.

Conclusion: Benign tumours are common than malignant tumours. Mature cystic teratoma is common than immature teratoma. Most of them presented with abdominal pain, even though other presentable symptoms were abdominal lump, irregular bleeding & loss of weight. The most common age group affected was 20-30. Left side was affected more than left side.

INTRODUCTION

In germ cell tumours, ovarian teratomas are the most common germ cell neoplasm and it is the most common excised ovarian tumour. Teratomas consists of number of histological types, all of which contain mature and/or immature tissues of germ cell origin. In teratomas, the most common is the mature cystic teratoma, which is also known as dermoid cyst consist of mature tissue of ectodermal, mesodermal & endodermal tissue of origin1,2. There is also monodermal teratomas, where only one of this tissue predominates. Eg. Thyroid tissue in struma ovarii /neuroectodermal tissue in carcinoid. Mature cystic teratomas are cystic tumours mainly comprised of well differentiated derivations of germ cell layers. These group of teratomas most commonly affect younger age group ranging from 5 to 30years than surface epithelial tumours. It is the common germ cell tumour removed at surgery. After the first meiotic division, it arises from single germ cell. clinically, most of them are asymptomatic, some presents with abdominal pain or other non specific symptoms. It ranges in size from small to large and it can be non surgical management of tumours size less than 6cm to simple cystectomy.

These tumours are bilateral in about 10% and 88% of total cases respectively. It is filled with sebaceous material.

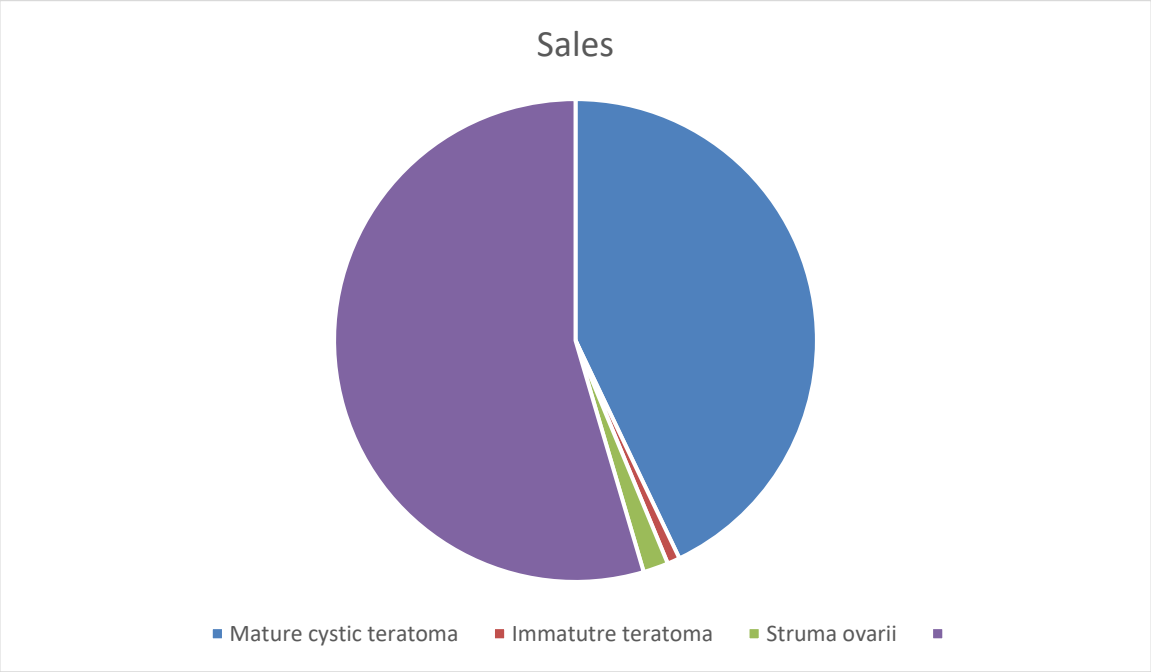
MATERIALS & METHODS

This study is a retrospective analysis if the all teratomas reported in the department of pathology at the tertiary health care centre. total abdominal hysterectomy & salphingoo- oophorectomy of the ovarian teratomas were considered. From August 2012 to July 2015, all the germ cell tumours were retrived from the recorded files & analysed. The tissues were routinely fixed with 10% of formalin and the sections were taken & the slides were stained with hematoxylin & eosin stain.

RESULTS

Table /FIG-1 : Occurrence of teratomas

S:No	Name	Total no of cases	Percentage
1.	Mature cystic teratoma	51	94.4%
2.	Immature teratoma	01	1.85%
3.	Struma ovarii	02	3.70%
		54	100%



Table/fig 2 : Clinical presentation of ovarian teratomas

S:No	Name of symptoms	Total no of cases	Percentage
1.	Abdominal pain	42	77.7%
2.	Abdominal pain & lump	10	18.5%
3.	Irregular bleeding	01	1.85%
4.	Loss of weight	01	1.85%
		54	100%

Table /fig 3 : Age wise distribution of ovarian teratomas

S:No	Age group	Total no of cases	Percentage
1.	0-10	-	00%
2.	10-20	17	31.48%
3.	20-30	32	59.25%
4.	30-40	04	7.40%
5.	40-50	01	1.85%
		54	100%

Table/fig 4: Location wise distribution of ovarian teratomas

S:No	Location	Total no of cases	Percentage
1.	Left	40	74%
2.	Right	14	26%
3.	Bilateral	00	00%
		54	100%

Table /fig5 : Nature of ovarian teratomas

S:No	Location	Total no of cases	Percentage
1.	Benign	53	98.15%
2.	Borderline	-	00.00%
3.	Malignant	01	1.85%
		54	100%

DISCUSSION

Out of 54 cases, 51 cases are benign mature cystic teratomas, 2 struma ovarii and 1 immature teratoma. Benign mature teratomas are more common than immature teratoma. In our study, benign mature cystic teratomas was the commonest histological subtype accounting for 94.4%, struma ovarii of 3.70% and the malignant immature teratoma considered only 1.85% coinciding with Jagtap.et.al., Ruchi rathore.et.al., Sunil sataram chavan.et.al. and Amitha S patel.et.al. In Sunil sataram Chavan et.al. had mature cystic teratoma was 81.52% and immature teratoma was 3.26%. And benign tumours (98.15%)more common than malignant tumours(1.85%). In our study 2 cases of struma ovarii was reported, it is an monodermal teratoma and an uncommon ovarian neoplasm accounting for 3.70% coinciding with the literature.

Clinically most of the patients presented with abdominal pain (77.7%); some of them had both abdominal pain & lump (18.5%), very few presented with irregular bleeding & loss of weight. In Sunil santaram Chavan.et al. study abdominal pain was the commonest symptom followed by abdominal lump. In other studies such as in Jagtap.et.al had non specific symptoms such as lower abdominal pain, abdominal lump and distension of the abdomen. Unilaterality accounts for more than bilaterality. Left side is more common than right side accounting for 74% and 26% respectively. In Jagtap.et.al study the same results were observed accounting for 44.55% of right side and 55.55% of left sided tumours. Bilateral tumours were none. Bilateral mature cystic teratoma of ovary is a rare presentation and recurrence rate is high in these cases as quoted in Akansha Balaji.et al. Bilateral tumours accounts for only 10-20% of the neoplasms. Teratomas are usually benign and only <2% of cases undergo malignant transformation. In Jagtap.et.al., only 5.6% had immature teratoma and in our study 1.85%. Immature teratoma accounts approximately 0.2% to1% of all ovarian teratomas and 3% of all teratomas. In our study, immature teratomas comprised of microcystic and tubular pattern of all three derivatives.

CONCLUSION

Benign tumours are common than malignant tumours. Mature cystic teratoma is common than immature teratoma. Most of them presented with abdominal pain, even though other presentable symptoms were abdominal lump, irregular bleeding & loss of weight. The most common age group affected was 20-30. Left side was affected more than left side.

Table /Fig 6: Cut section of ovary showing pultaceous material & hair follicle

Table /Fig –7: Cut section of ovary showing features of colloid

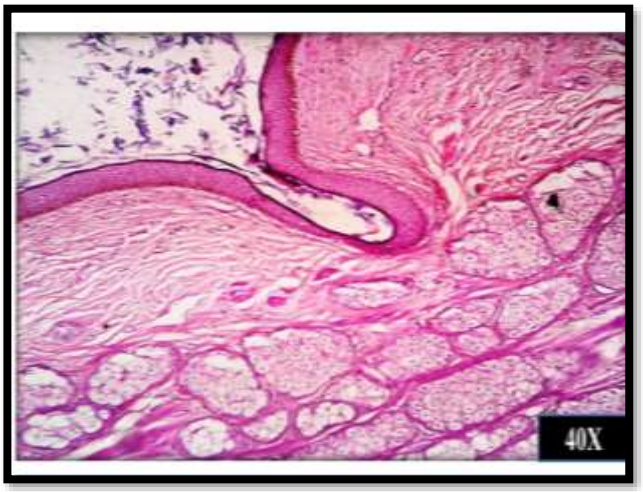
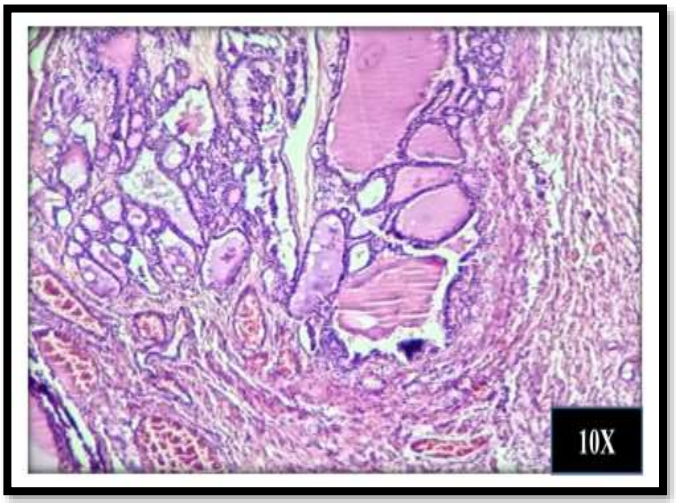


Table /Fig – 8 A keratinized cyst wall lined flakes of keratin with underlying ovarian stroma comprising of sebaceous glands



Table/Fig 9 Histopathological features of thyroidisation of follicles in ovarian stroma

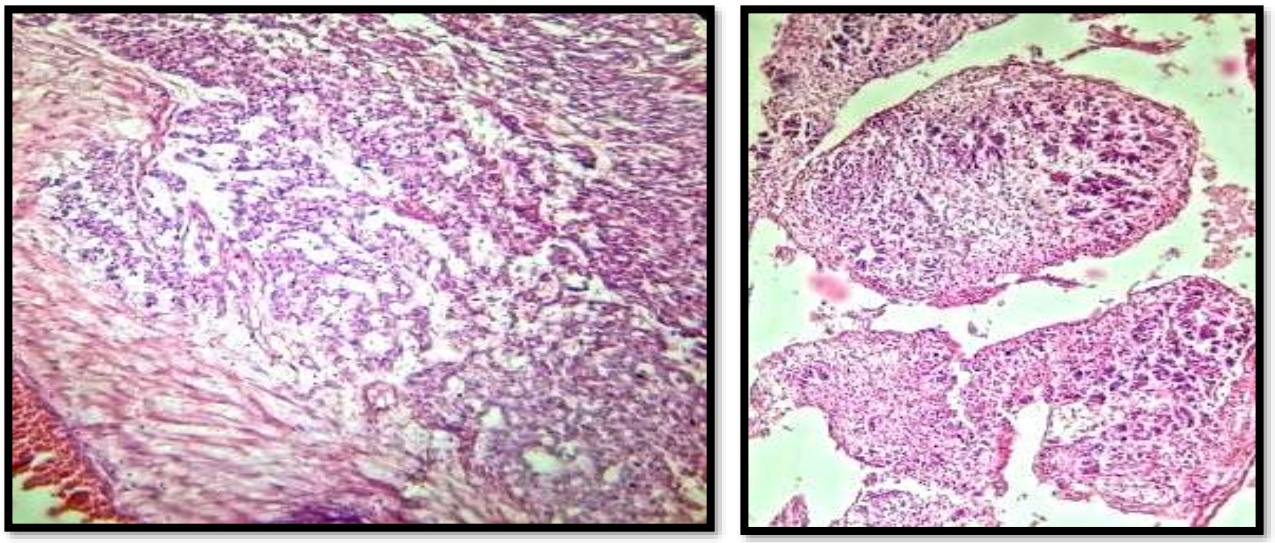


Table /Fig – 10 Mixed germ cell tumour showing features of immature teratoma in microcystic & tubular pattern with yolk sac component

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