International Journal of Science and Research (IJSR)
ISSN: 2319-7064
Impact Factor 2024: 7.101

Exploring Dermoid Cyst - A Mature Cystic Teratoma

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Abstract: ***Teratoma is a tumour of germ cell origin. It is divided into three categories: 1) Mature (benign) 2) Immature (malignant) and 3) monodermal teratoma. Mature teratoma is a tumour composed exclusively of mature somatic tissues derived from two or three germ layers (ectoderm, mesoderm, and/or endoderm). These tumours account for 20% - 25% of all benign ovarian neoplasms, only about 3% are malignant. In the first two decades of life, almost 70% are of germ cell origin and one third of these are malignant. The peak incidence is observed in the third decade. Most benign teratomas are cystic and are called dermoid cyst. Teratomas originate from the primordial germ cells. Benign teratomas are bilateral in 10 - 15% of cases.***

Keywords: mature teratoma, dermoid cyst, ovarian tumour, germ cell origin, malignant teratoma

1. Case Report

A 23 year old unmarried student came with complaints of pain abdomen since 2 days. Relavent investigations were done and hemoglobin was reported to be 12.9gm%. Ultrasound abdomen and pelvis was reported as a lesion of vol 175 cc in the right adnexa - ORADS II lesion mostly Dermoid cyst. MRI pelvis showed a large well defined mixed signal intensity midline located pelvic lesion in the right adnexa - suggestive of ovarian dermoid cyst with ?torsion of right adnexa. Patient was taken up for emergency diagnostic laparoscopy and proceed. Intraoperatively right side dermoid cyst of 10x 7cm was noted.2 turns of torsion was noted involving the fallopian tube. Necrosis of right ovary and fallopian tube noted. Right salpingoophorectomy was done and was sent for histopathological examination. Left ovaries and fallopian tube was normal. HPE reports revealed as right ovary shows cyst lined by flattened epithelium admixed there are seen are sebaceous glands, hair follicles, cartilage and few areas of ciliated columnar epithelium - Dermoid cyst.

2. Discussion

A dermoid cyst rarely grows larger and is unilocular or has very few locules. Its capsule is thick, smooth and greyish yellow in colour, the yellow tint is given by the sebaceous material within. The lining epithelium is typically stratified squamous and contains usual cutaneous elements - sebaceous gland, hair follicles, teeth, cartilage. Tissues of central nervous system, even the choroid plexus are often present. The cyst is filled with thick, yellowish, greasy fluid which is secreted by the glands in its wall. Chemical changes in the sebaceous material and fragmentation of the hair sometimes results in the formation of balls and pellets of fat and hair. The structures inside cyst are usually ectodermal but can be special tissues like strums ovaries - functioning thyroid tissue leading to hyperthyroidism. A rare but interesting derivative of intestinal elements in the wall of dermoid cyst is the carcinoid tumour.

3. Conclusion

A benign teratoma is characterised by well differentiated tissues but these can undergo malignant change. The prognosis of any individual tumour is determined not by the usual criteria but by the degree of maturity of the constituent tissues, those in which all the components are fully mature will have benign course where as in case immature constituents will have a higher tendency of malignancy. There are many malignancies which can arise from the constituents like sarcomas from the mesodermal constituents, neuroma and gluoma from the nerve tissue elements. The wall of dermoid cyst can develop squamous cell carcinoma and possibly melanoma.

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