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Editorial Article

Archaic and Substratal-Embryonal Carcinoma – Ovary

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EDITORIAL

Embryonal carcinoma of ovary is an exceptionally discerned, malignant germ cell tumour emerging from pleuripotent cells, akin to undifferentiated stem cells enunciated during embryonic development. The pleomorphic, high grade tumefaction frequently appears as a component of mixed germ cell tumour and simulates testicular embryonal carcinoma. Embryonal carcinoma commonly manifests as an enlarged, unilateral neoplasm. Cellular component of embryonal carcinoma appears to evolve and differentiate into subsequent developmental stage. Embryonal carcinoma may infrequently be discerned in the mediastinum [1,2]. Ovarian embryonal carcinoma commonly arises in adolescents or young adults with median age of disease emergence at 15 years [1,2]. Incriminated subjects represent with precocious puberty, abnormal, enhanced, reduced or absent uterine bleeding, amenorrhea or hirsutism. Metastatic embryonal carcinoma may be associated with low back pain, dyspnoea, cough, hemoptysis, hematemesis or neurologic abnormalities [1,2]. Grossly, a smooth, pale grey or tan, poorly defined, glistening tumefaction of magnitude two centimeters to three centimeters with median tumour diameter of 17 centimeters is exemplified. Cut surface is variegated and demonstrates extensive foci of necrosis and haemorrhage. [1,2] Upon microscopic examination, sheets and nests of enlarged, primitive tumour cells appear intermingled with syncitiotrophoblast-like neoplastic cells pervaded with and immune reactive to β-HCG. Neoplastic cells depict an indistinct cellular perimeter and variable, eosinophilic or basophilic cytoplasmic staining.[1,2] Tumour cells are incorporated with vesicular nuclei with prominent nucleoli. Nuclear overlapping is significant. Smudgy, degenerative nuclei may be observed. Foci of necrosis and mitotic figures are commonly discerned.[1,2] Tumefaction demonstrates variable architectural patterns such as predominantly solid, glandular, papillary or tubulo-papillary, configuring an estimated 50% of primary tumour. Embryoid bodies may be discerned which are articulated of cellular globes circumscribed by vacant spaces. Occasional papillae and abortive glandular articulations may be exemplified.[1,2] Additionally, uncommon primary tumour patterns are constituted of nested, micro-papillary, anatomizing glandular, sieve-like glandular, pseudo-papillary or blastocyst-like configurations. Neoplasms may depict a mixed growth pattern.[1,2]

Embryonal carcinoma is immune reactive to AE1/AE3, CD30, OCT3/4, SOX2, SALL4 or PLAP.[3,4] Embryonal carcinoma is immune non reactive to CK19, CD117, p63, GATA3, calretinin, SOX17, glypican3or D2-40.[3,4] Embryonal carcinoma is associated with elevated levels of serum β-HCG, AFP and LDH, possibly due to associated neoplasms as yolk sac tumour. Aforesaid serum markers can be evaluated prior to commencement of therapy and are employed for monitoring tumour reoccurrence.[3,4] Ultrasonography is beneficial for assessing the neoplasm. [3,4] Computerized tomography of thoracic cavity, abdomen and pelvis is recommended for discerning tumour metastasis.[3,4] Embryonal carcinoma requires segregation from neoplasms such as teratocarcinoma, yolk sac tumour, mixed germ cell tumour, choriocarcinoma, primary lymphoma, Sertoli-Leydig cell tumour or carcinoma of non germ cell origin.[3,4] Surgical extermination of the neoplasm is an optimal and recommended mode of therapy. Surgical intervention of embryonal carcinoma may demonstrate tumour extension beyond ovary.[3,4] Prognostic outcomes appear ameliorated with adoption of adjuvant chemotherapy. Tumefaction is unamenable to radiation therapy.[3,4] (Figure 1 and 2)

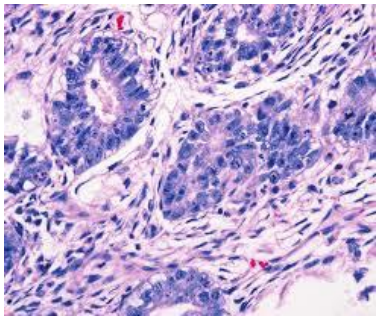

Figure 1: Embryonal carcinoma demonstrating pseudo- glandular arrangement depicting enlarged tumour cells with variably stained cytoplasm, indistinct margin, vesicular nuclei with prominent nucleoli and nuclear overlapping surrounded by unremarkable stroma.[5]

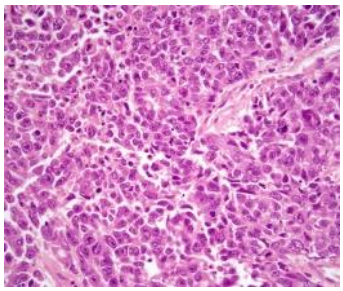

Figure 2: Embryonal carcinoma depicting a solid pattern composed of enlarged cells with indistinct outline, vesicular, overlapping nuclei with prominent nucleoli and mitotic figures.[2,6]

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5. Image 1 courtesy.
6. Image 2 courtesy: Pathology outlines.