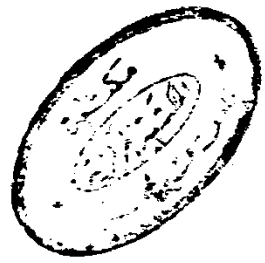
THE ENDOMETRIAL PATTERN IN ASSOCIATION WITH OVARIAN TUMOURS

THESIS

Submitted in Partial Fulfilment
of M. S. Degree (PATHOLOGY)



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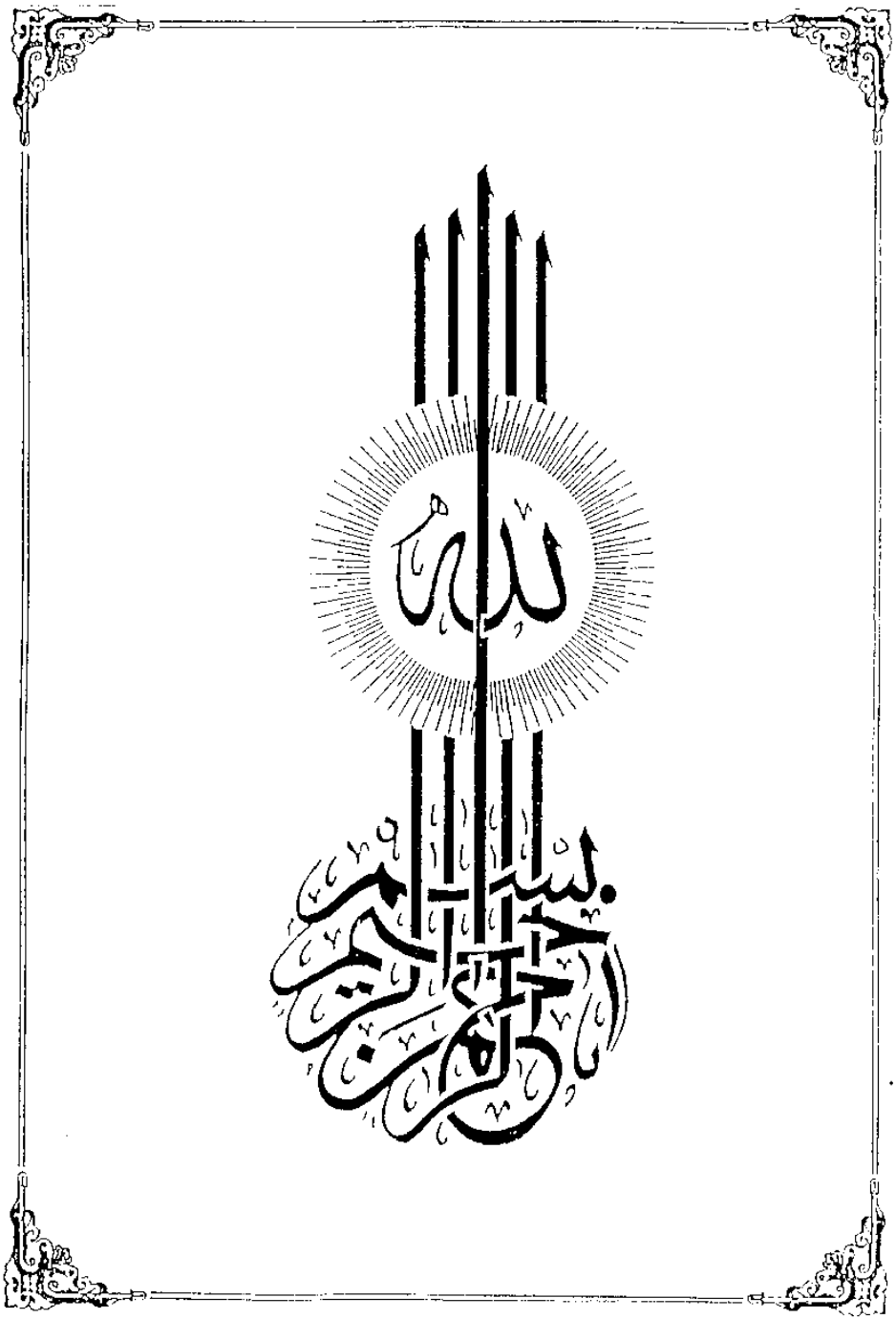

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A C K N O W L E D G E M E N T

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C O N T E N T S

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HISTOLOGICAL CLASSIFICATION OF OVARIAN TUMOURS

The following system of classification was adopted by the World Health Organization (Serov, Scully and Sobin 1973).

(I) Common Epithelial Tumours

(A) Serous Tumours.

1) Benign

(a) Cystadenoma and papillary cystadenoma.

(b) Surface papilloma.

(c) Adenofibroma and cystadenofibroma.

2) Of borderline malignancy:

(a) Cystadenoma and papillary cystadenoma.

(b) Surface papilloma.

(c) Adenofibroma and cystadenofibroma.

3) Malignant.

(a) Adenocarcinoma, papillary adenocarcinoma and papillary cystadenocarcinoma.

(b) Surface papillary carcinoma.

(c) Malignant adenofibroma and cystadenofibroma.

(B) Mucinous Tumours:

1) Benign

(a) Cystadenoma.

(b) Adenofibroma and cystadenofibroma.

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2) Of borderline malignancy:

(a) Cystadenoma.

(b) Adenofibroma and cystadenofibroma.

3) Malignant:

(a) Adenocarcinoma and cystadenocarcinoma.

(b) Malignant adenofibroma and cystadenofibroma.

(C) Endometrioid Tumours:

1) Benign:

(a) Adenoma and cystadenoma.

(b) Adenofibroma and cystadenofibroma.

2) Of borderline malignancy:

(a) Adenoma and cystadenoma.

(b) Adenofibroma and cystadenofibroma.

3) Malignant:

(a) Carcinoma.

i) Adenocarcinoma.

ii) Adenoacanthoma.

iii) Malignant adenofibroma and cystadenoma.

(b) Endometrioid stromal sarcomas.

(c) Mesodermal (Müllerian) mixed tumours; homologous and heterologous.

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(D) Clear Cell (Mesonephroid) Tumours:

1) Benign:

Adenofibroma.

2) Of borderline malignancy:

3) Malignant:

Carcinoma and adenocarcinoma.

(E) Brenner Tumours:

1) Benign:

2) Of borderline malignancy:

3) Malignant:

(F) Mixed Epithelial Tumours:

1) Benign:

2) Of borderline malignancy:

3) Malignant:

(G) Undifferentiated Carcinoma:

(H) Unclassified Epithelial Tumours:

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(II) Sex Cord Stromal Tumours

(A) Granulosa-Stromal Cell Tumours:

1- Granulosa cell tumour.

2- Tumours in the thecoma-fibroma group.

(a) Thecoma.

(b) Fibroma.

(c) Unclassified.

(B) Androblastomas; Sertoli-Leydig Cell Tumours:

1- Well differentiated:

(a) Tubular androblastoma; Sertoli cell tumour (tubular adenoma of Pick).

(b) Tubular androblastoma with lipid storage; Sertoli cell tumour with lipid storage (folliculome lipidique of Iecène).

(c) Sertoli-Leydig cell tumour (tubular adenoma with Leydig cells).

(d) Leydig cell tumour; hilus cell tumour.

2- Of intermediate differentiation:

3- Poorly differentiated (sarcomatoid).

4- With heterologous elements:

(C) Gynandroblastoma:

(D) Unclassified:

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(III) Lipid (Lipoid) Cell Tumours

(IV) Germ Cell Tumours

(A) Dysgerminoma.

(B) Endodermal Sinus Tumour.

(C) Embryonal Carcinoma.

(D) Polyembryoma.

(E) Chorio-carcinoma.

(F) Teratomas.

1- Immature.

2- Mature.

(a) Solid

(b) Cystic

i) Dermoid cyst (mature cystic teratoma)

ii) Dermoid cyst with malignant transformation.

3- Monodermal and highly specialized.

(a) Struma ovarii.

(b) Carcinoid.

(c) Struma ovarii and carcinoid.

(d) Others.

(G) Mixed Forms:

(Tumours composed of types A through F in any possible combination).

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(V) Gonadoblastoma

(A) Pure.

(B) Mixed With Dysgerminoma or Other Form Of Germ Cell Tumours.

(VI) Soft Tissue Tumours Not Specific To Ovary

(VII) Unclassified

(VIII) Secondary Tumours

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(I) Common Epithelial Tumours

These are the most common group of ovarian neoplasms and include the majority of ovarian carcinomas.

The tissue of origin is considered to be the surface celomic mesothelium that covers the ovary. It seems to retain the capacity to recapitulate tumour patterns that resemble the epithelial components of the müllerian ducts. For example: a) the epithelium of serous tumours resembles that which lines the tube; b) the cells that line the mucinous cystadenoma resemble endocervical mucosa (Anderson and Kissane 1977).

These tumours usually have a prominent cystic component, a variable amount of fibrous stroma and an epithelial lining that is often thrown into papillary tufts.

According to the degree of aggressiveness they are divided into a) Benign group: which in case of cystic tumours is lined by a single layer of well oriented columnar epithelium. b) Malignant group: in which the epithelial cells are several layers and have anaplastic nuclei with loss of polarity. There is invasion of stroma of the tumour or other structures. c) Borderline group: is identified by the absence of invasion of an highly proliferative neoplasm. The epithelium may be two or three cell thick. The cells are moderately dysplastic and maintain some degree of columnar orientation in most areas (Anderson and Kissane 1977).

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(A) Serous Tumours

Serous Cystadenoma

They develop either in pre-existing germinal epithelium inclusion cysts or in the germinal surface epithelium itself.

Serous cystadenomas appear grossly as cystic, often large neoplasms filled with clear serous liquid although occasionally one may also contain mucous material. Therefore the diagnosis depends on the histologic features of the lining epithelium and not on the nature of the fluid. The external surface of the cyst is smooth and glistening with a marked vascular pattern. The majority are unilocular but multilocular forms exist. The inner lining either is flat or shows areas with papillary projections which never cover the entire inner surface of the benign serous cystadenoma (Blaustein 1977).

The predominant lining epithelium of both the smooth and papillary areas consists of a single layer of regular cuboidal . epithelium with basaly arranged uniform nuclei. Other types of epithelial cells, such as columnar, cuboidal, mucus-secreting, ciliated, clear and hobnail are present. Psammoma bodies which are rounded microscopic laminated calcific concretions are frequently present within the stroma of the papillary projections and they are formed

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as a result of degenerative changes. The stroma of the tumour consists of connective tissue with scattered blood vessels (Blaustein 1977).

Ultra-structural studies reveal that the nuclei are uniform oval with mild irregularities of nuclear borders and homogenous central chromatin which is condensed along the periphery. Microvilli and cilia are present along the luminal border. The absence of prominent nuclear irregularity and the presence of a marked complex cell interdigitations characterize the benign serous cystadenoma from borderline and malignant lesions (Blaustein 1977).

Borderline Serous Cystadenoma

The borderline tumours are grossly similar to the benign serous cystadenoma with papillary projections but the borderline tumours show an increased incidence of bilaterality and they are often multilocular with a more complex papillary pattern. There are fine papillae that resemble solid epithelial proliferations (Blaustein 1977).

Blaustein (1977) stated that at least two of the following microscopical features must be present in order that the tumour is considered as borderline. These features are stratification of the epithelial lining of the

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