In the histogenetic classification of ovarian neoplasms the epithelial tumors belong to the group of tumors of surface-epithelial and ovarian stromal origin, also known as tumors of "paramesonephric, celomic (germinal, müllerian) epithelial origin." These constitute about two-thirds of all primary ovarian tumors and almost 90% of all ovarian cancers.

Although the origin of these neoplasms from the surface epithelium with participation of the underlying stroma has been accepted by most authorities, the evidence supporting this histogenesis varies in the individual tumors from fairly conclusive to merely circumstantial. It should be emphasized that the histologic pleomorphism and heterogenicity encountered in this group of tumors by no means contradict their common origin. Although the ovary is not of Müllerian origin, the source of these neoplasms, namely the surface epithelium, is derived from the celomic epithelium, which in the embryo gives rise to the müllerian duct; this latter as is well known, forms the fallopian tubes, uterine body, cervix, and part of the vagina with their large variety of epithelia. The presence of different epithelial elements in these tumors therefore can be satisfactorily explained. However, the cause for the great neoplastic potential of the ovarian surface epithelium has not yet been elucidated.

Table 21.1 lists the order in which the various epithelial tumors are discussed in this chapter. This is a simplified version of the listing of "Common Epithelial Tumours" in the "Histologic Classification..."
of Ovarian Tumours” issued by the World Health Organization (W.H.O.)\(^\text{10}\) (Table 21.2). This latter listing although enumerating many possible variations and combinations of epithelial neoplasms would unnecessarily complicate the presentation of our material and be too cumbersome for the purpose of this chapter. As is evident from Table 1 most of the tumors can be divided into benign and malignant forms. In addition, there are “borderline” types, which according to the WHO classification exist in all their listed neoplasms (Table 2). However, because tumors of borderline malignancy have been adequately studied in the serous, mucinous, and possibly Brenner tumors only, a detailed discussion of this feature will be limited to these three neoplasms. In some of the other tumors, borderline malignancy will only be briefly mentioned wherever applicable.

Admixtures of histologic elements from various epithelial ovarian tumors within a given tumor are very common and may constitute further proof of their common derivation. In this chapter the tumors are classified according to their predominant histologic component.

A clear-cut distinction between functioning and nonfunctioning ovarian tumors is no longer possible since it is now well known that almost all ovarian neoplasms including primary epithelial tumors are capable of endocrine activity. The morphologic expression of this activity is the presence of luteinized and or “enzymatically active stromal cells” within the ovaries harboring the epithelial neoplasms. In order to avoid repetitions, these particular histologic features are dealt with in one separate section at the end of the chapter, rather than with the individual tumors.

### Serious Tumors

#### Serous Cystadenoma

It is quite obvious that the benign serous cystadenomas originate in the surface epithelium of the ovary

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**Table 21.2. Histologic classification of ovarian tumors: Common “epithelial” tumors\(^*\)**

- **A. Serous tumors**
  1. Benign
     - (a) Cystadenoma and papillary cystadenoma
     - (b) Surface papilloma
     - (c) Adenofibroma and cystadenofibroma
  2. Of borderline malignancy (carcinomas of low malignant potential)
     - (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 tumors**
  1. Benign
     - (a) Cystadenoma
     - (b) Adenofibroma and cystadenofibroma
  2. Of borderline malignancy (carcinomas of low malignant potential)
     - (a) Cystadenoma
     - (b) Adenofibroma and cystadenofibroma
  3. Malignant
     - (a) Adenocarcinoma and cystadenocarcinoma
     - (b) Malignant adenofibroma and cystadenofibroma

- **C. Endometrioid tumors**
  1. Benign
     - (a) Adenoma and cystadenoma
     - (b) Adenofibroma and cystadenofibroma

- **D. Clear cell (mesonephroid) tumors**
  1. Benign: adenofibroma
  2. Of borderline malignancy (carcinomas of low malignant potential)
     - (a) Adenocarcinoma
     - (b) Adenocarcinoma and cystadenocarcinoma
  3. Malignant
     - (a) Carcinoma
     - (b) Endometrioid stromal sarcomas
     - (c) Mesodermal (müllerian) mixed tumors, homologous and heterologous

- **E. Brenner tumors**
  1. Benign
  2. Of borderline malignancy (proliferating)
  3. Malignant

- **F. Mixed epithelial tumors**
  1. Benign
  2. Of borderline malignancy
  3. Malignant

- **G. Undifferentiated carcinoma**

- **H. Unclassified epithelial tumors**

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\(^*\)From International Histological Classification of Tumours, No. 9: Histological Classification of Ovarian Tumours, 1973. [Reproduced by permission of the copyright holder, World Health Organization.]