



Figure 7-3 **A**, Gross appearance of an opened cystic teratoma of the ovary. Note the presence of hair, sebaceous material, and tooth. **B**, A microscopic view of a similar tumor shows skin, sebaceous glands, fat cells, and a tract of neural tissue (*arrow*).

between benign and malignant tumors is one of the most important distinctions a pathologist can make. Although an innocent face may mask an ugly nature, in general, benign and malignant tumors can be distinguished on the basis of a number of histologic and anatomic features, (described below). Malignant tumors also tend to grow more rapidly than benign tumors, but there are so many exceptions that growth rate is not a very useful discriminator between benignity and malignancy. In fact, even cancers

exhibit remarkably varied growth rates, from slow-growing tumors associated with survival for years, often without treatment, to rapidly growing tumors that may be lethal within months or weeks.

Differentiation and Anaplasia

Differentiation refers to the extent to which neoplastic parenchymal cells resemble the corresponding normal

Table 7-1 Nomenclature of Tumors

Tissue of Origin	Benign	Malignant	Tissue of Origin	Benign	Malignant
Composed of one parenchymal cell type			Tumors of Epithelial Origin (cont'd)		
Tumors of Mesenchymal Origin			Epithelial lining of glands or ducts	Adenoma Papilloma Cystadenoma	Adenocarcinoma Papillary carcinomas Cystadenocarcinoma
Connective tissue and derivatives	Fibroma Lipoma Chondroma Osteoma	Fibrosarcoma Liposarcoma Chondrosarcoma Osteogenic sarcoma	Respiratory passages	Bronchial adenoma	Bronchogenic carcinoma
Vessels and surface coverings			Renal epithelium	Renal tubular adenoma	Renal cell carcinoma
Blood vessels	Hemangioma	Angiosarcoma	Liver cells	Hepatic adenoma	Hepatocellular carcinoma
Lymph vessels	Lymphangioma	Lymphangiosarcoma	Urinary tract epithelium (transitional)	Transitional cell papilloma	Transitional cell carcinoma
Mesothelium	Benign fibrous tumor	Mesothelioma	Placental epithelium	Hydatidiform mole	Choriocarcinoma
Brain coverings	Meningioma	Invasive meningioma	Testicular epithelium (germ cells)		Seminoma Embryonal carcinoma
Blood Cells and Related Cells			Tumors of Melanocytes	Nevus	Malignant melanoma
Hematopoietic cells		Leukemias	More than one neoplastic cell type—mixed tumors, usually derived from one germ cell layer		
Lymphoid tissue		Lymphomas	Salivary glands	Pleomorphic adenoma (mixed tumor of salivary origin)	Malignant mixed tumor of salivary gland origin
Muscle			Renal anlage		Wilms tumor
Smooth	Leiomyoma	Leiomyosarcoma	More than one neoplastic cell type derived from more than one germ cell layer—teratogenous		
Striated	Rhabdomyoma	Rhabdomyosarcoma	Totipotential cells in gonads or in embryonic rests	Mature teratoma, dermoid cyst	Immature teratoma, teratocarcinoma
Tumors of Epithelial Origin					
Stratified squamous	Squamous cell papilloma	Squamous cell carcinoma			
Basal cells of skin or adnexa		Basal cell carcinoma			