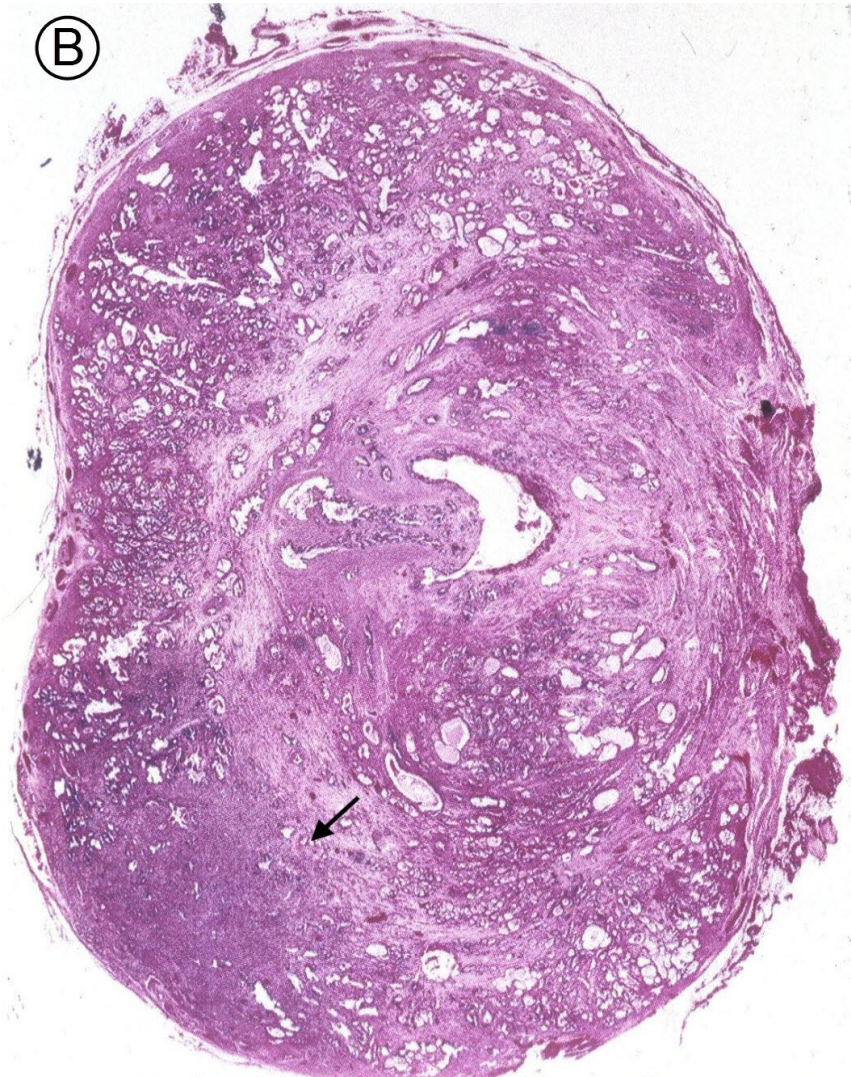
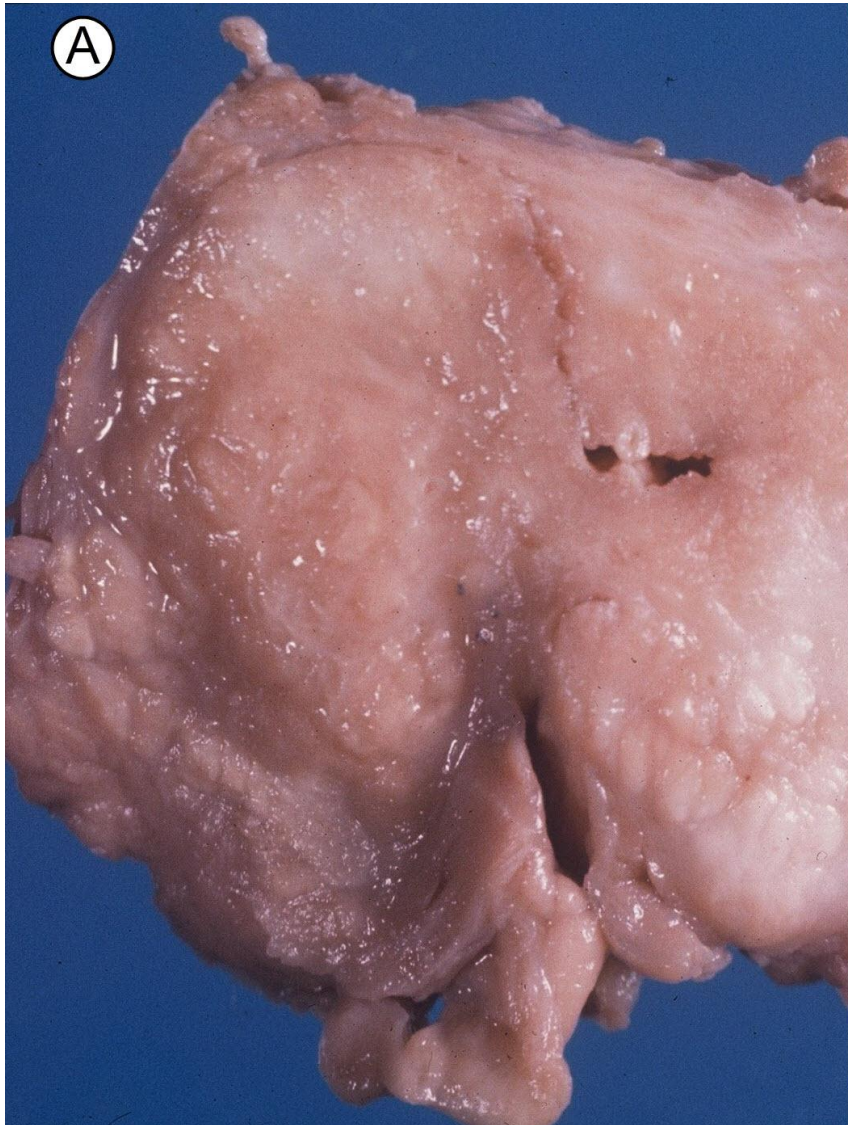


Chapter 16

Tumors of male genital organs

16.1 Prostatic adenocarcinoma.



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Picture 16-1

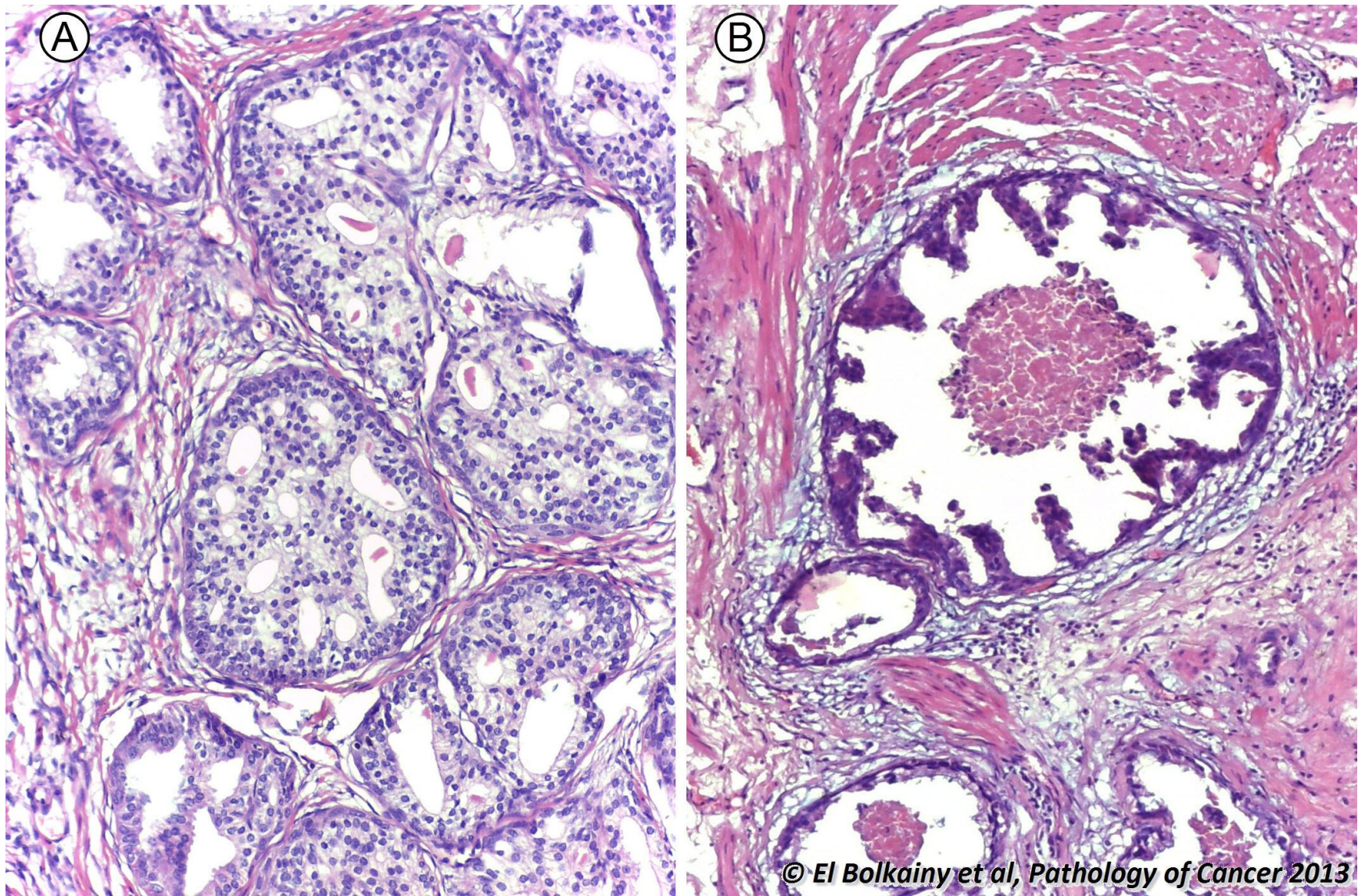
Prostatic adenocarcinoma. **A** Grossly, it appears as small irregular multifocal yellowish white nodules. **B** Computer scan x5, whole mount of radical prostatectomy specimen showing infiltration by solid sheets of malignant cells (arrow) located at the periphery.

16.2 Nodular hyperplasia.



Picture 16-2 Nodular hyperplasia. **A** Grossly, it shows glistening large multinodular appearance with cystic areas. **B** Histologically, nodules of hyperplastic glands and stroma with evident cystic dilatation of the glands with preserved lobular pattern.

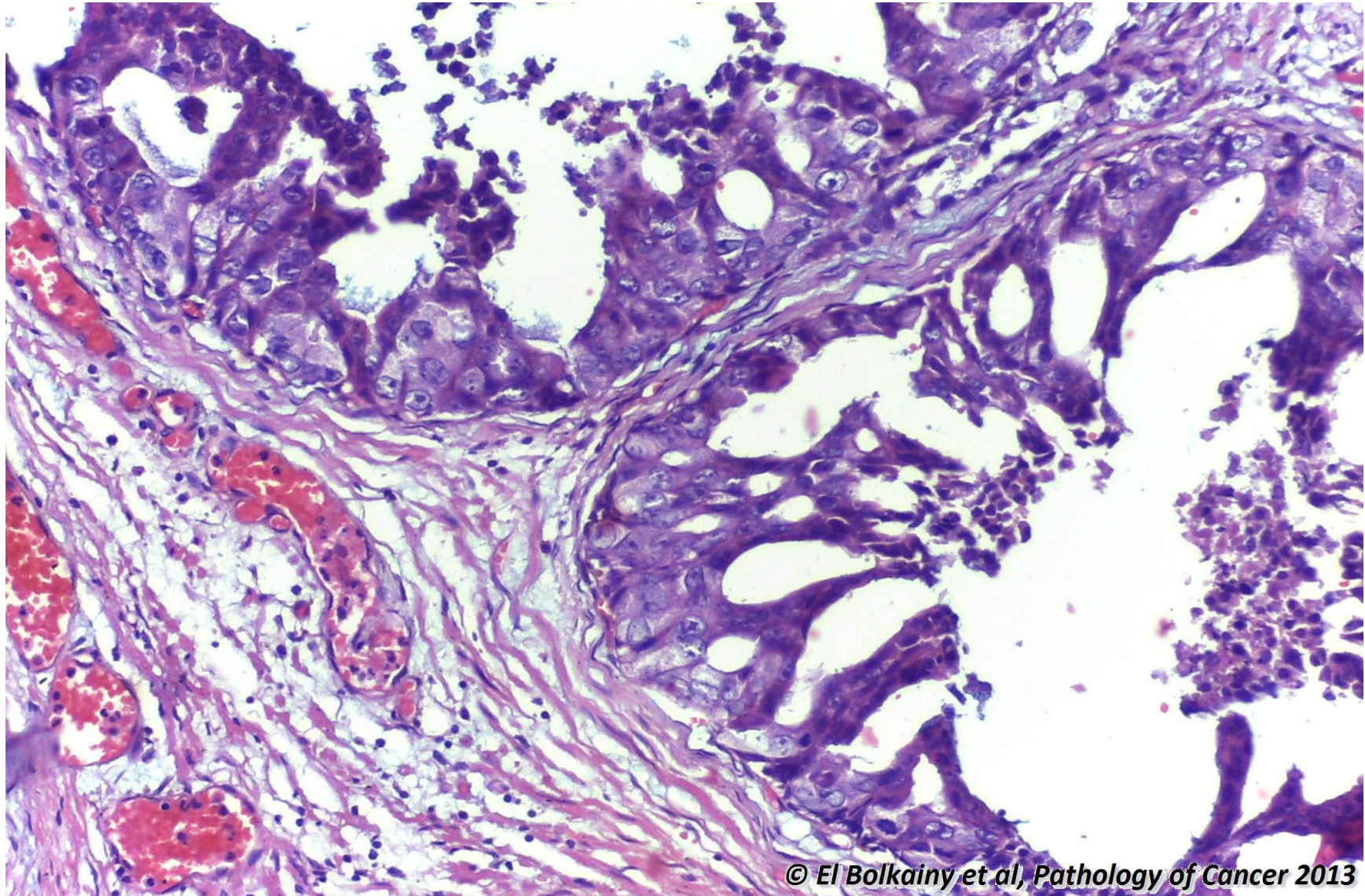
16.3 High grade prostatic intraepithelial neoplasia (PIN), histology.



Picture 16-3 High grade prostatic intraepithelial neoplasia (PIN), histology. A Cribriform pattern with evident basal cell layer. B Micropapillary pattern with necrotic tumor cells in the lumen. A feature favoring malignancy.

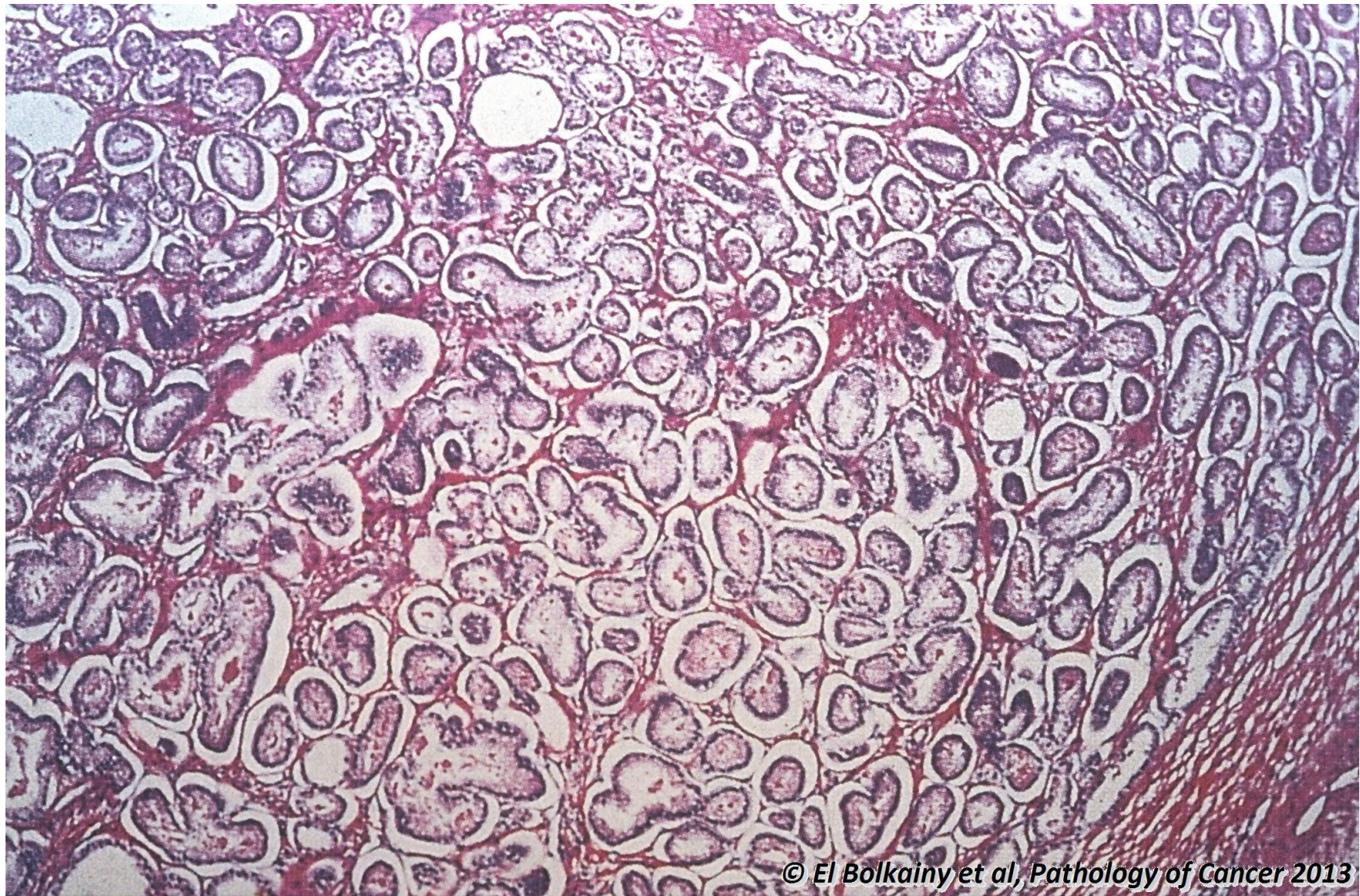
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16.4 High grade prostatic intraepithelial neoplasia, histology.



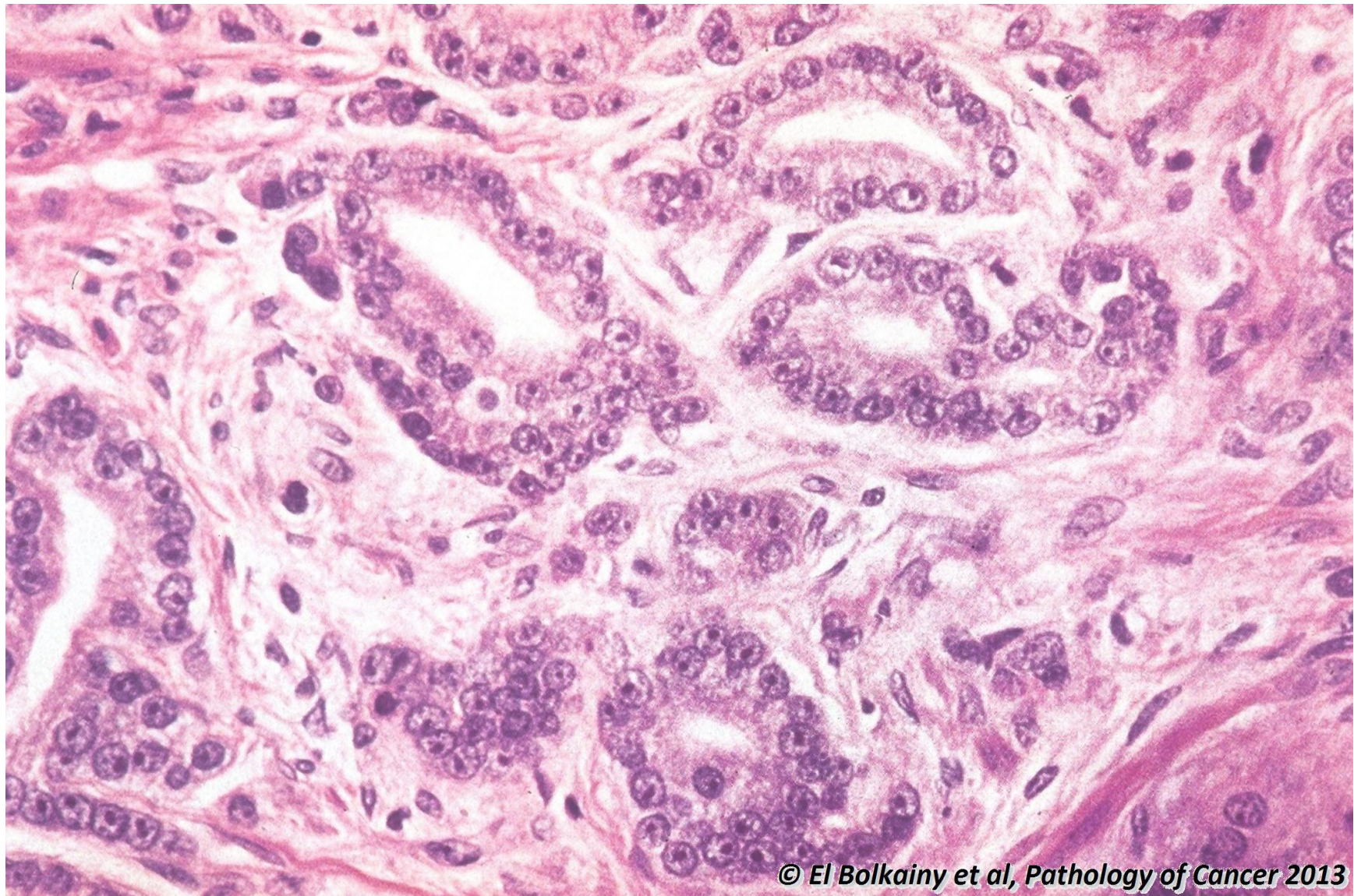
Picture 16-4 High grade prostatic intraepithelial neoplasia, histology. Cytologically, the acini are lined by multi-layered epithelium, with discontinuous basal cell layer and atypical pseudostratified epithelial cells. Note the increased N/C ratio and prominent nucleoli.

16.5 Acinar adenocarcinoma, Gleason grade 1.



Picture 16-5 Acinar adenocarcinoma, Gleason grade 1. It shows a circumscribed nodule of uniform separate closely acini. This pattern is rarely encountered in practice.

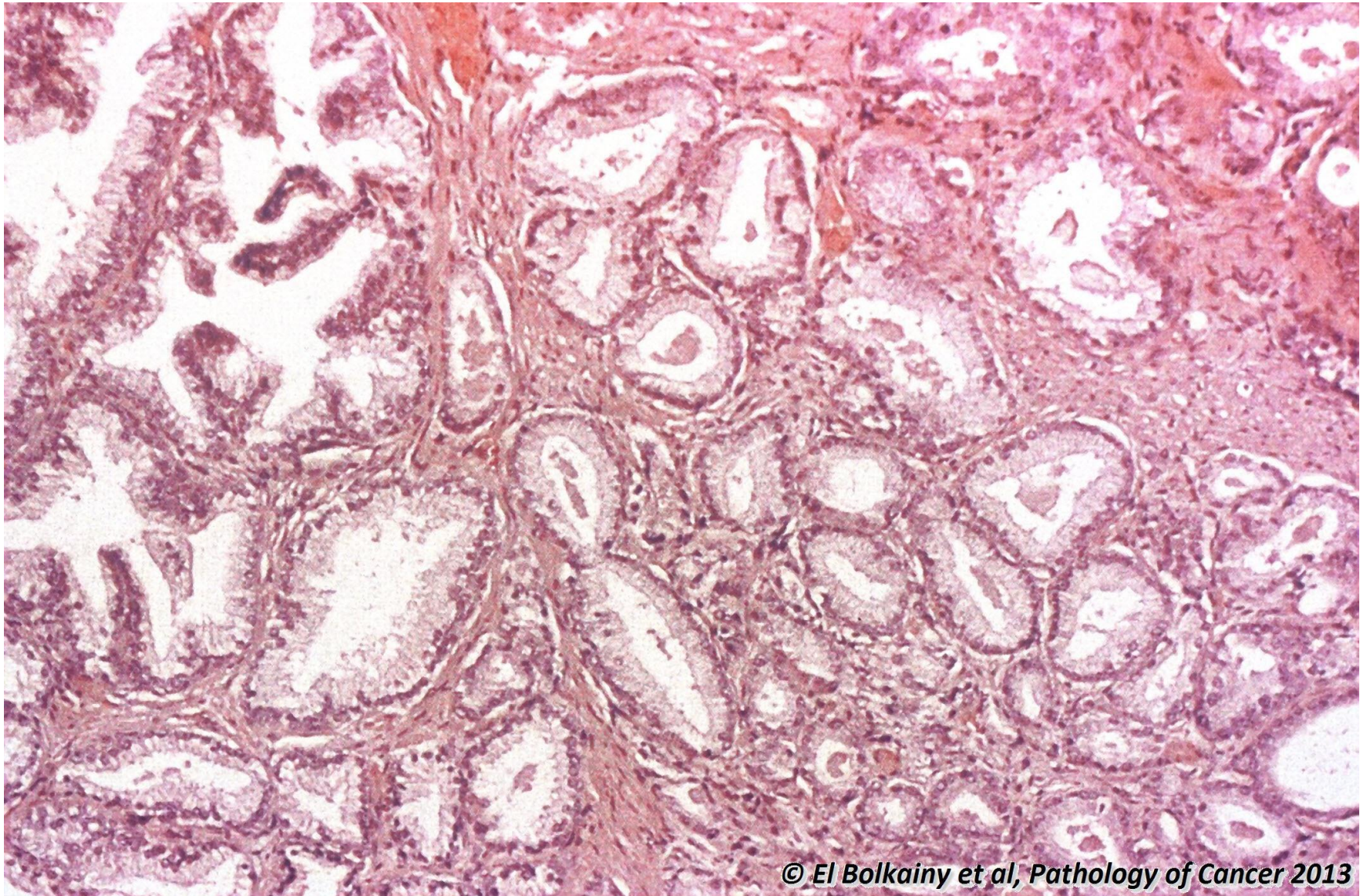
16.6 Acinar adenocarcinoma, Gleason grade 2, high power.



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Picture 16-6 Acinar adenocarcinoma, Gleason grade 2, high power. Variable-sized loosely arranged acini with lack of basal cell layer. Note very prominent nucleoli as well as abortive glands consisting of 3-8 cells.

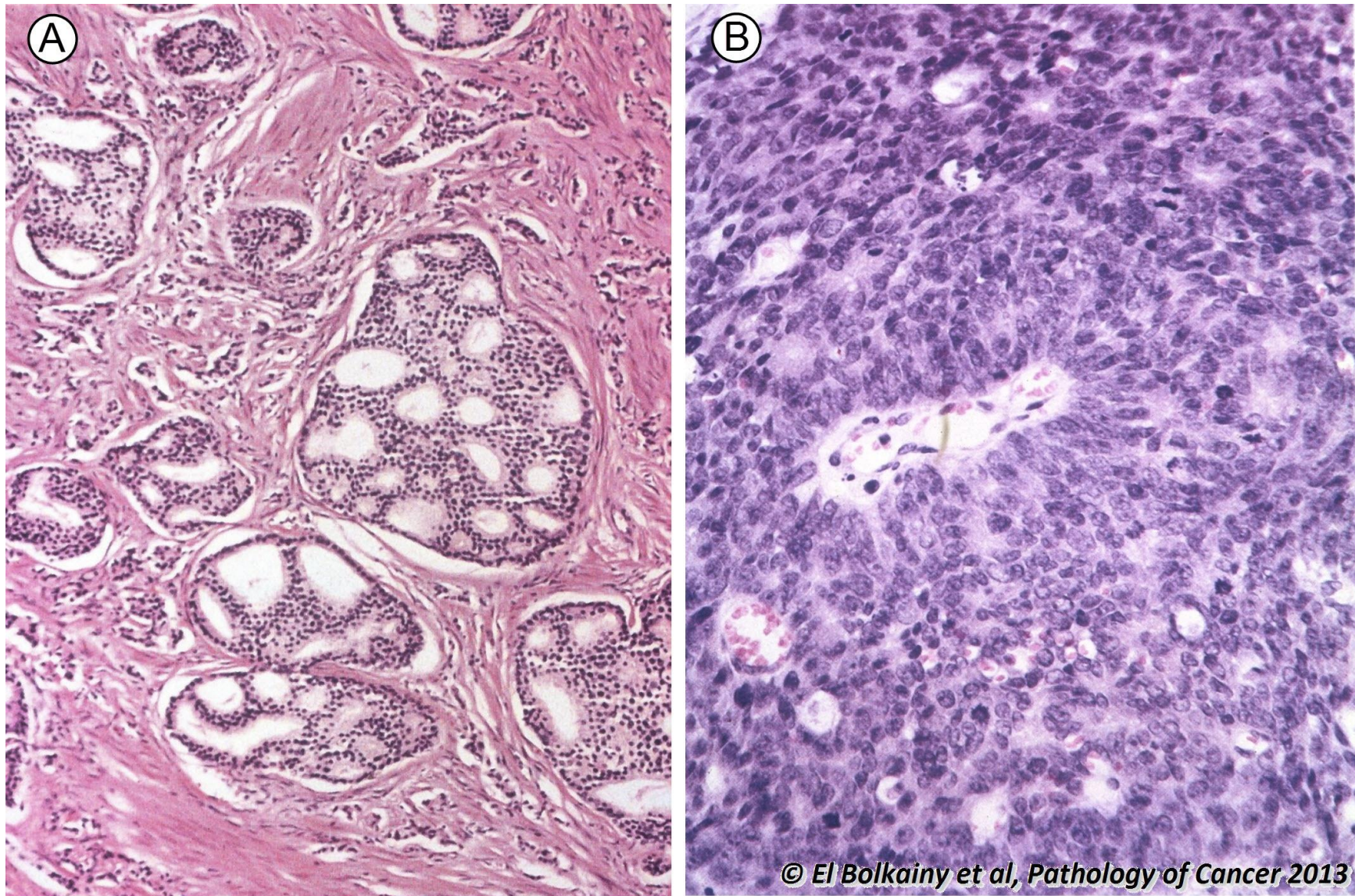
16.7 Acinar adenocarcinoma, Gleason grade 3.



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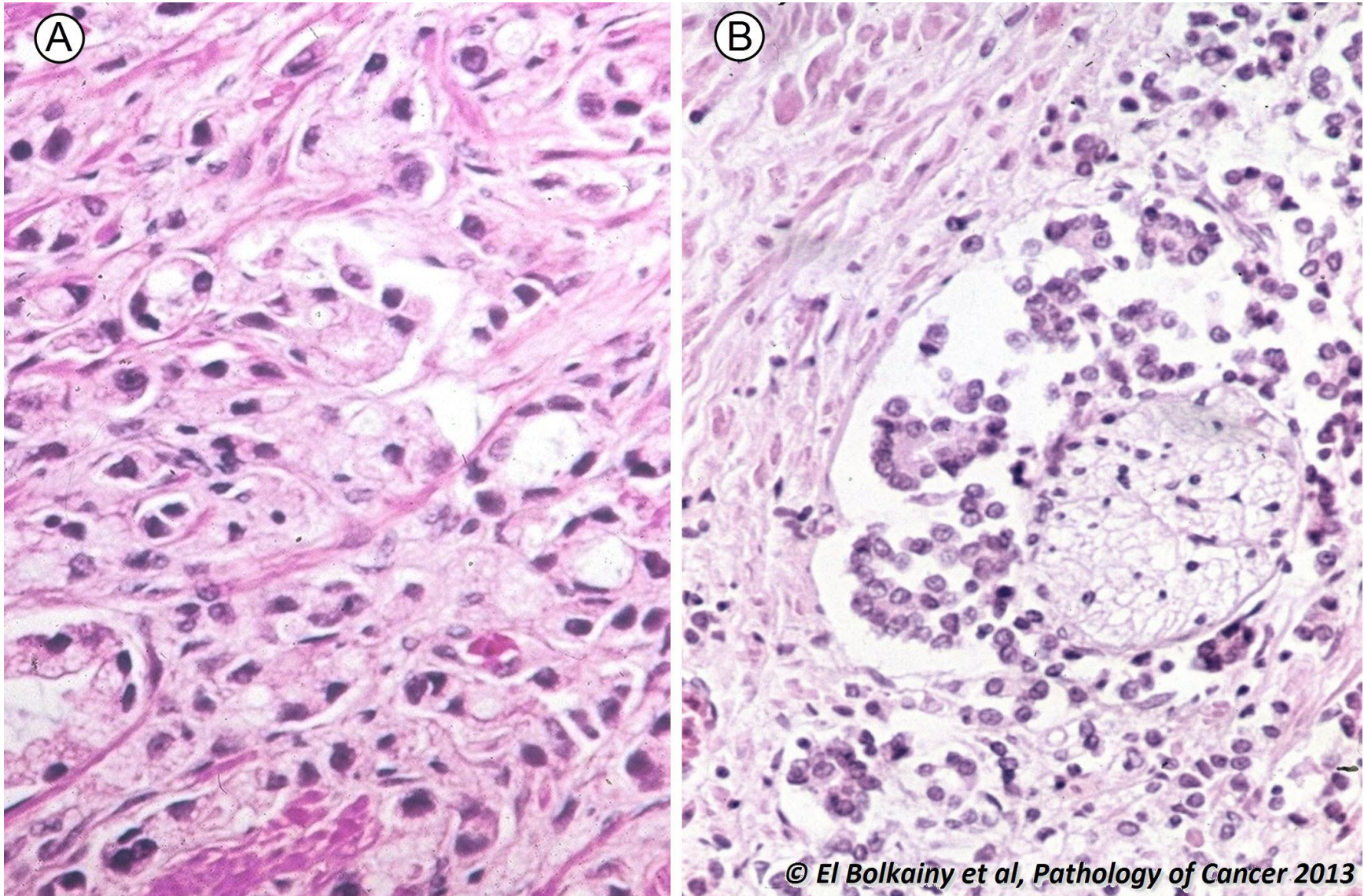
Picture 16-7 Acinar adenocarcinoma, Gleason grade 3. It shows small glands infiltrating among large non-neoplastic glands.

16.8 Acinar adenocarcinoma, Gleason grade 4.



Picture 16-8 Acinar adenocarcinoma, Gleason grade 4. **A** Cribriform pattern with absent basal cell layer. **B** Fused microacinar glands (indistinct cytoplasmic borders) with poorly formed lumina are seen.

16.9 Acinar adenocarcinoma, Gleason grade 5, high power.



Picture 16-9 Acinar adenocarcinoma, Gleason grade 5, high power. **A** Cords as well as single scattered pleomorphic cells. **B** Perineural invasion is commonly seen in high grade tumors.

16.10 Acinar adenocarcinoma, Gleason grade 3, immunostaining.

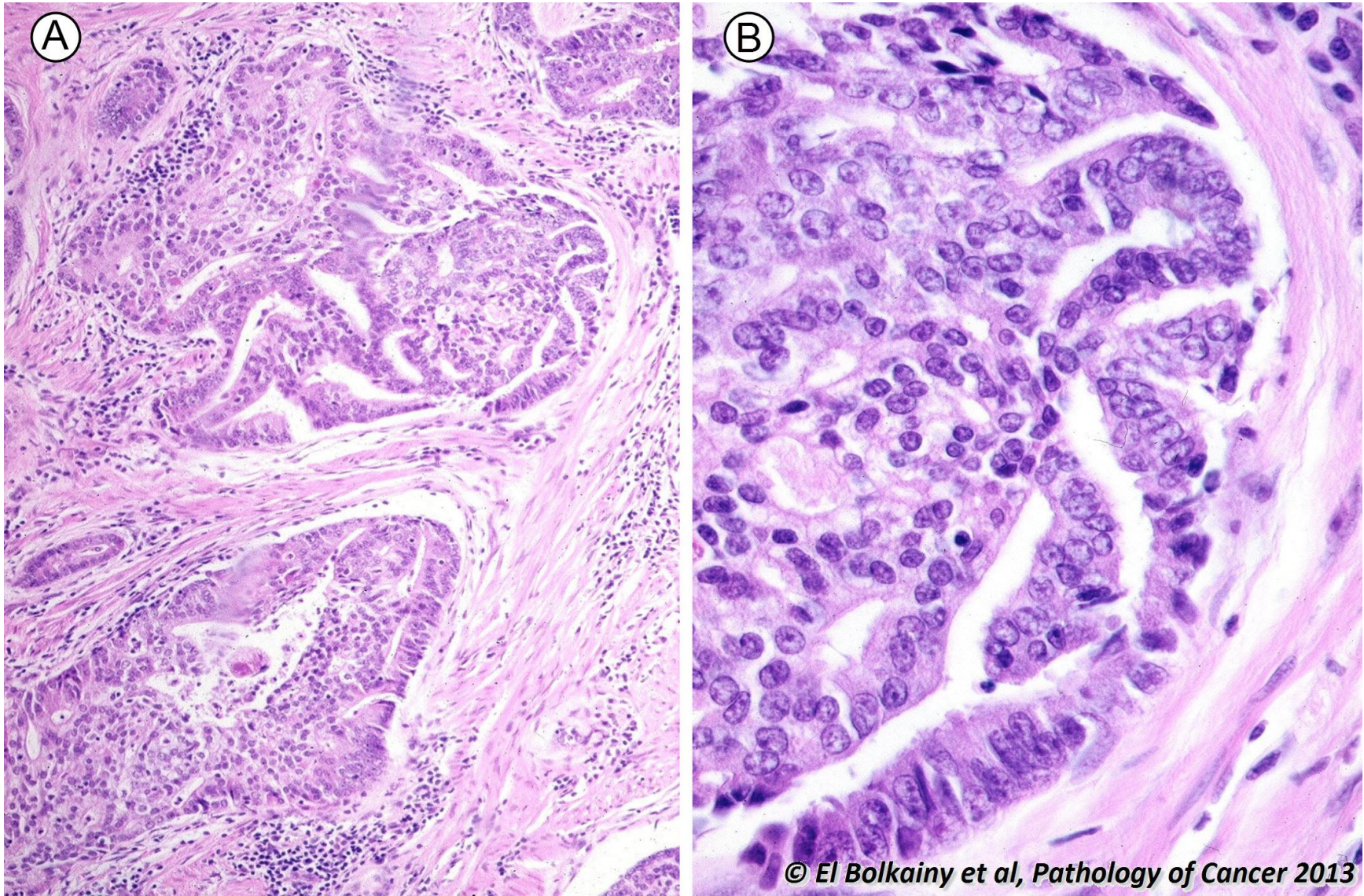


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**Picture
16-10**

Acinar adenocarcinoma, Gleason grade 3, immunostaining. High molecular weight cytokeratin (HMWCK) (CK 5/14) highlights basal cells in the non-neoplastic large glands (Rt. side of picture). The small glands (Lt. side of picture) do not stain for HMWCK or p63 denoting absence of basal cells and thus their malignant nature.

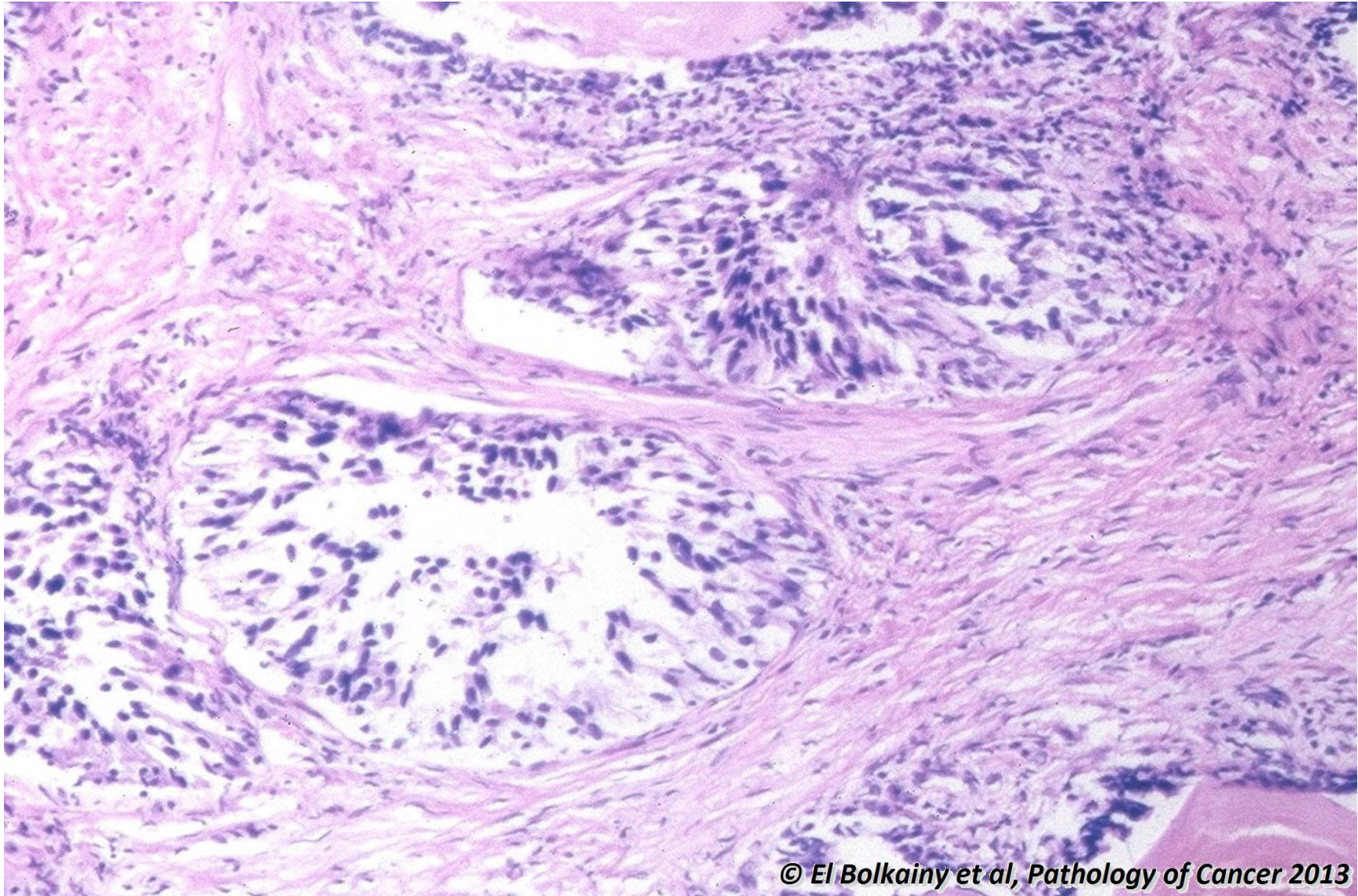
16.11 Ductal adenocarcinoma, histology.



Picture 16-11

Ductal adenocarcinoma, histology. **A** Low power. This tumor arises from the prostatic ducts, characterized by cribriform or papillary architecture. **B** High power showing a pseudostratified columnar malignant epithelial lining. This should be distinguished from high grade PIN by the presence of cystically dilated glands and by absence of basal cell layer (p63-ve).

16.12 Transitional cell (urothelial) carcinoma, histology.

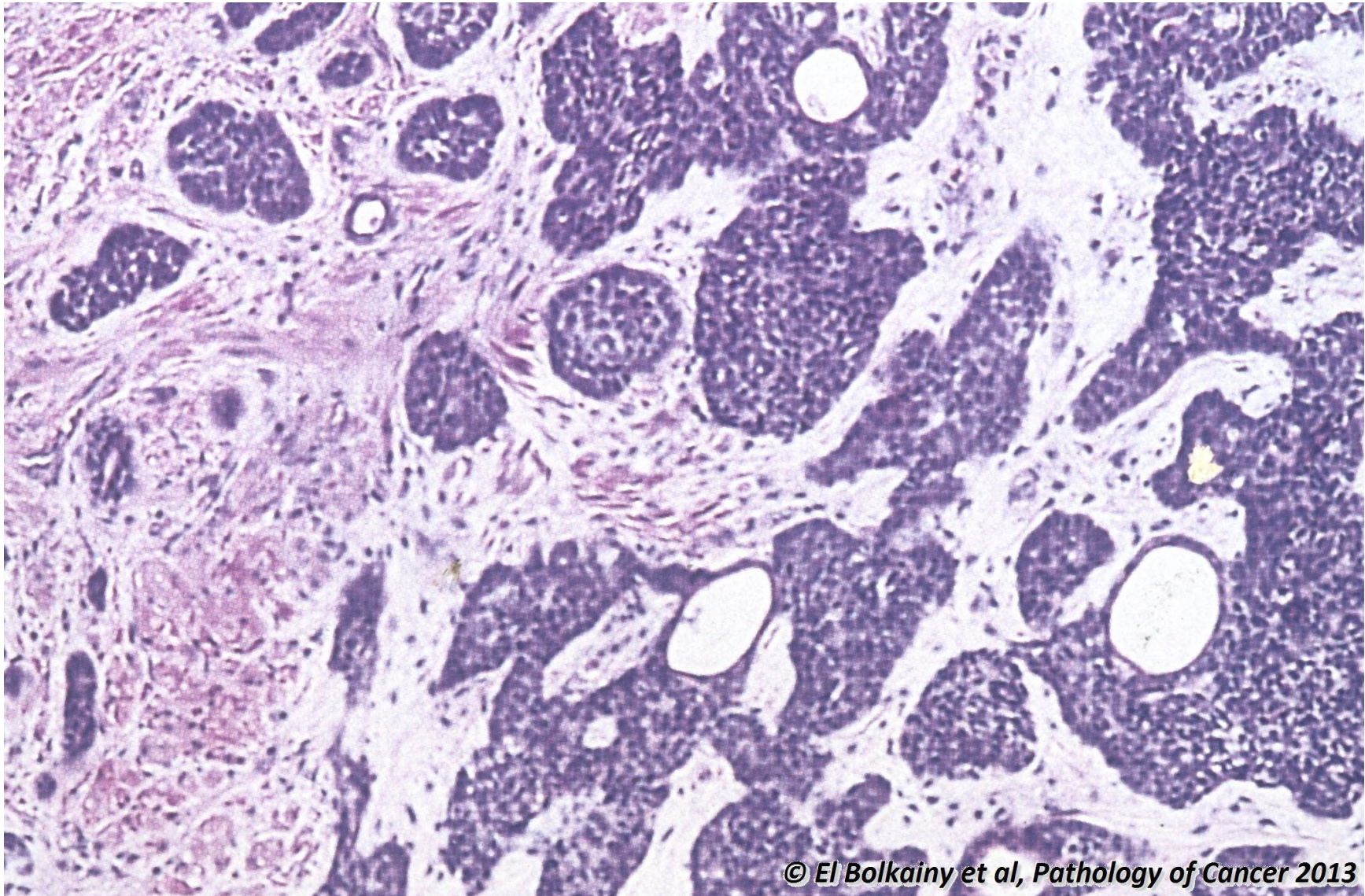


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**Picture
16-12**

Transitional cell (urothelial) carcinoma, histology. It is similar to urothelial carcinoma arising from the bladder. It arises from terminal prostatic ducts. Before diagnosing a primary urothelial carcinoma, the possibility of extension from a bladder or urethral carcinoma should be excluded by cystoscopy.

16.13 Basaloid carcinoma, histology.

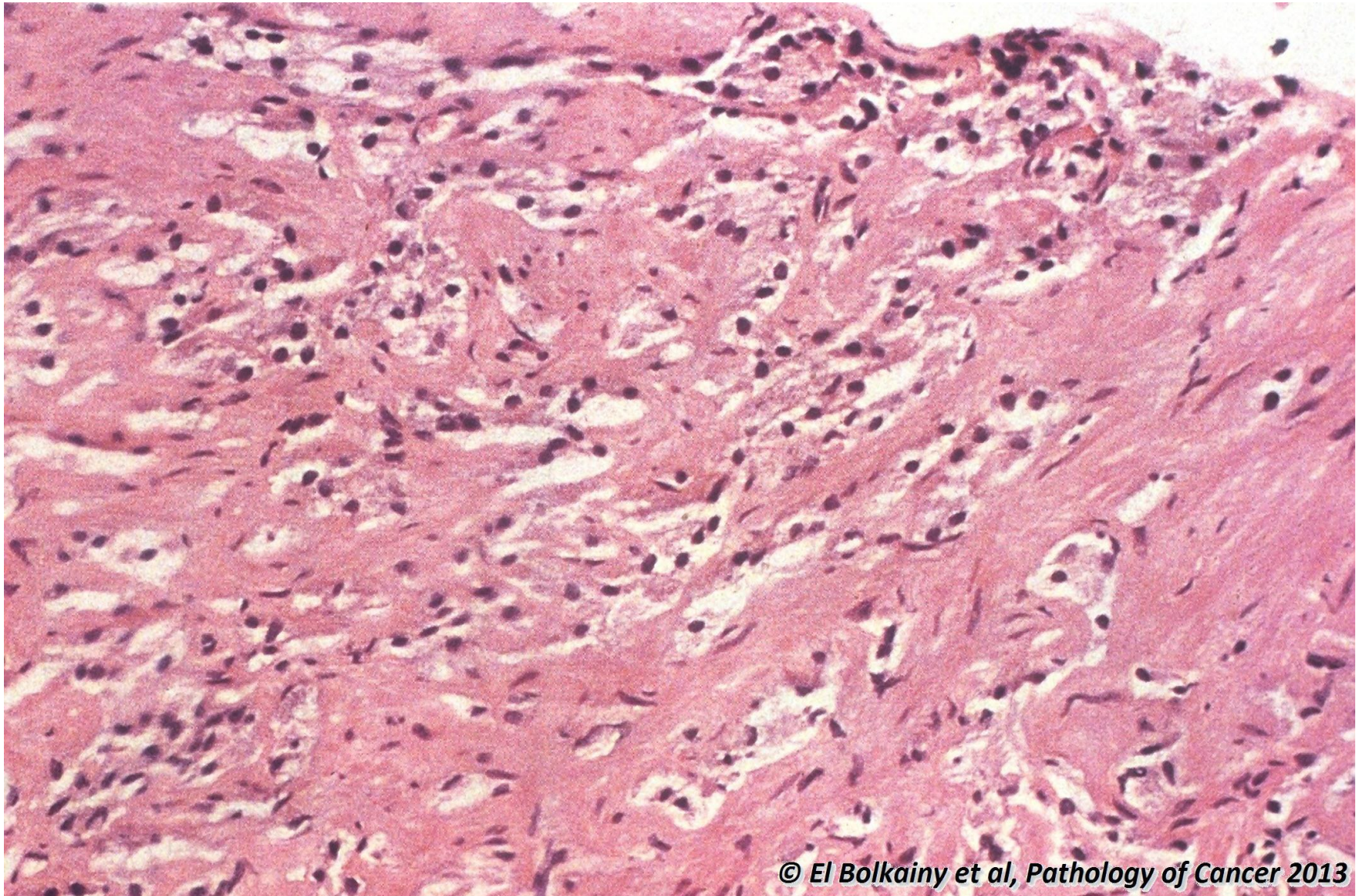


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**Picture
16-13**

Basaloid carcinoma, histology. It shows infiltrative clusters of basaloid cells within a desmoplastic stroma. perineural invasion, necrosis, extraprostatic extension are features that help to distinguish it from basal cell hyperplasia.

16.14 Small cell carcinoma, histology.

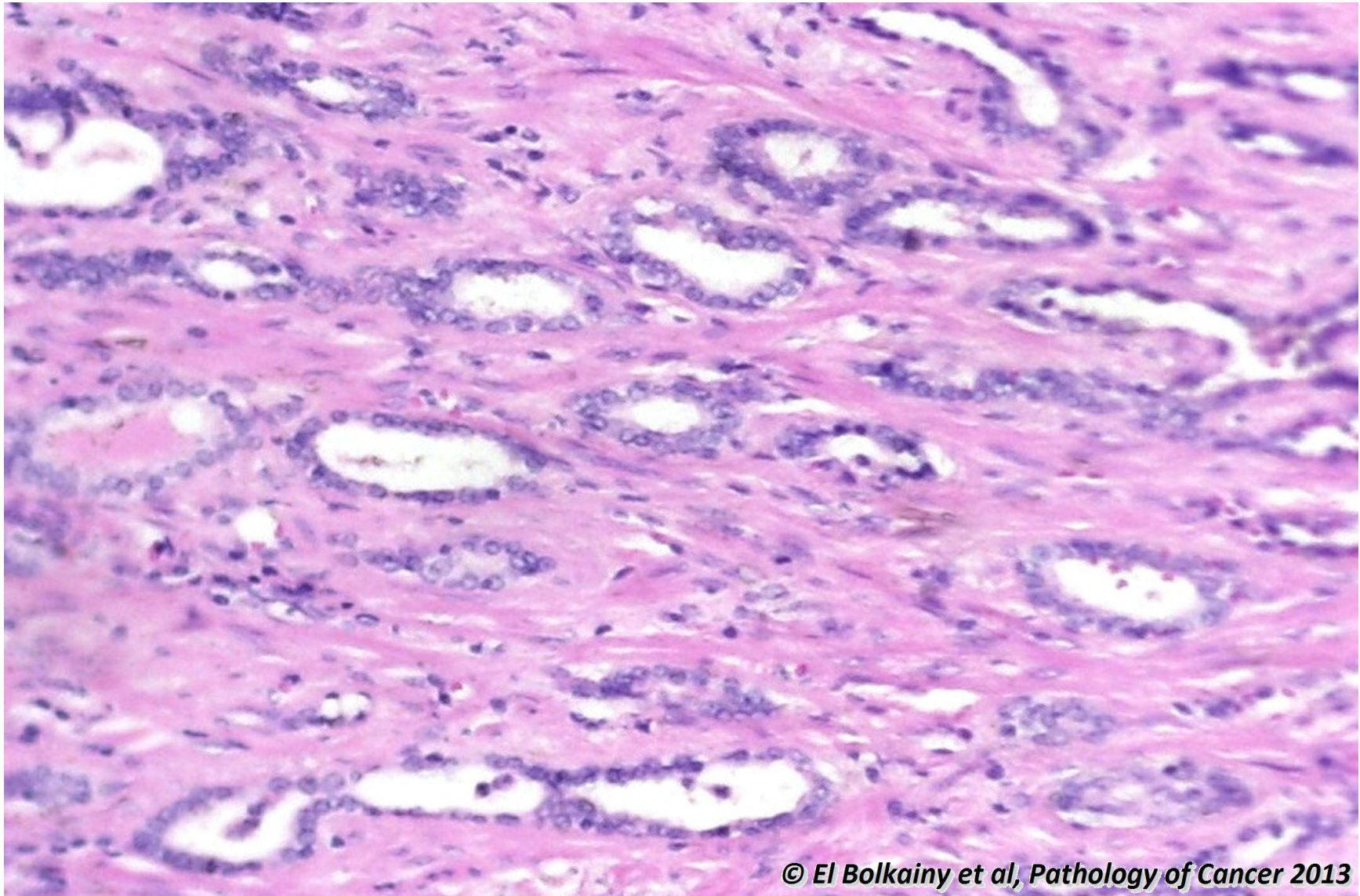


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**Picture
16-14**

Small cell carcinoma, histology. It is identical to that arising in the lung. It is mixed with acinar adenocarcinoma in 50% of cases. It shows loose or individual tumor cells simulating inflammation.

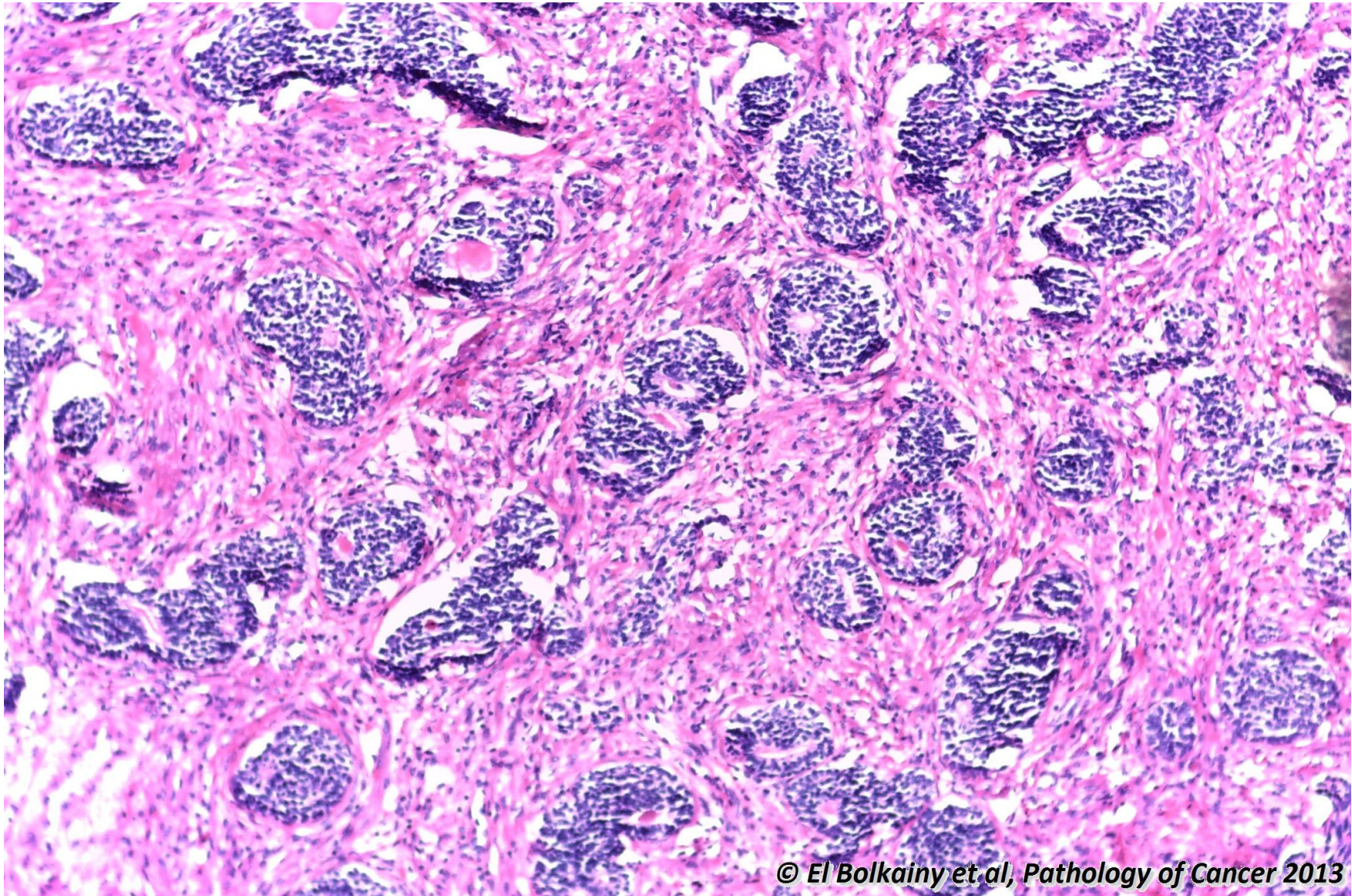
16.15 Prostatic atrophy, histology.



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Picture 16-15 **Prostatic atrophy, histology.** This lesion simulates malignancy in view of variation of gland size and prominence of nucleoli. However, preserved lobular pattern, uniform glands with cuboidal epithelial lining, regular normochromatic nuclei and minimal nucleoli help to make the diagnosis.

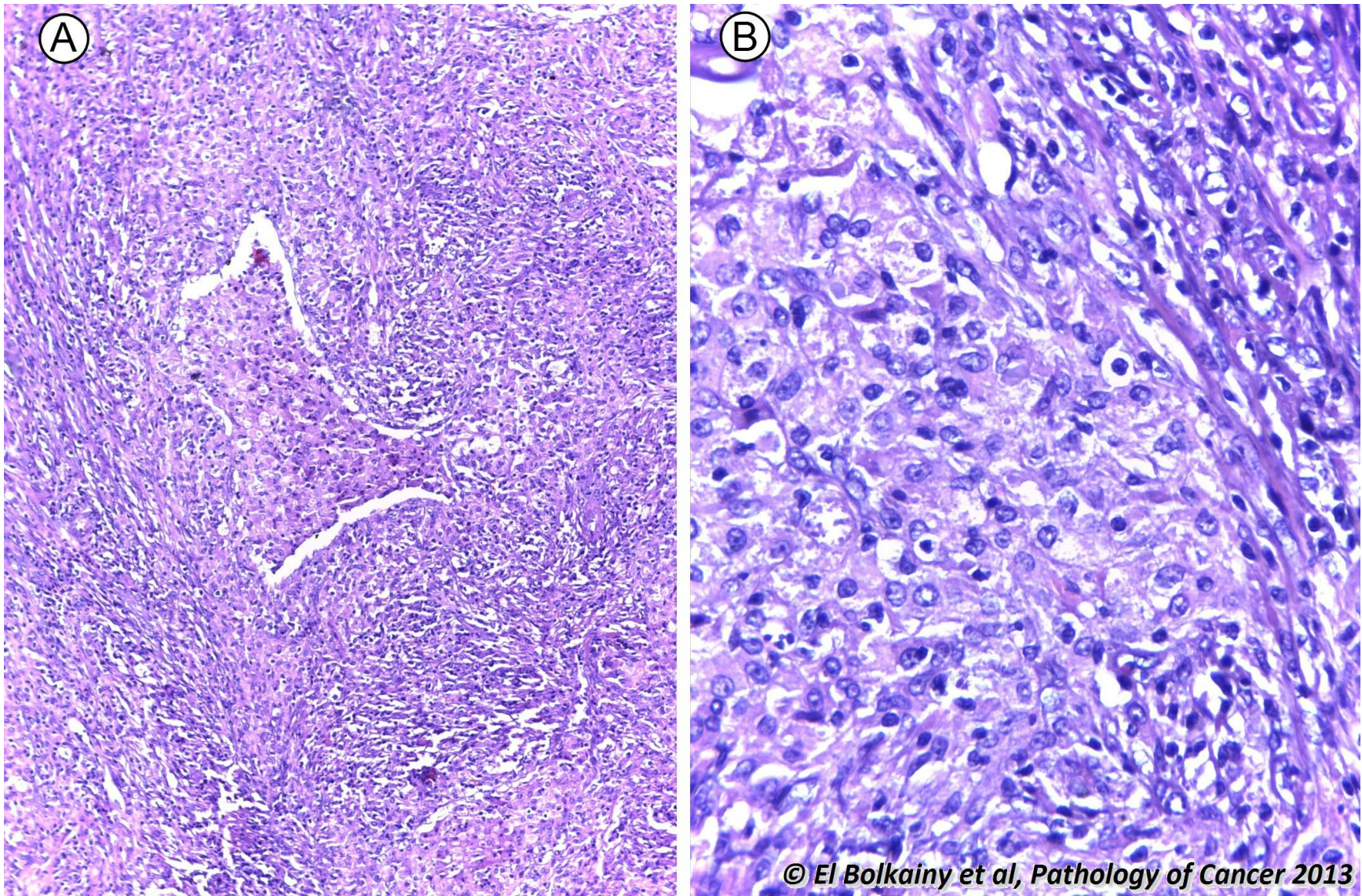
16.16 Basal cell hyperplasia, histology.



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Picture 16-16 Basal cell hyperplasia, histology. It is characterized by solid nests of uniform basaloid cells lacking prominent nucleoli in a fibromyxomatous stroma. Moreover, an important feature is preservation of a lumen with epithelial lining at the center of the hyperplastic basaloid cells.

16.17 Granulomatous prostatitis, histology.

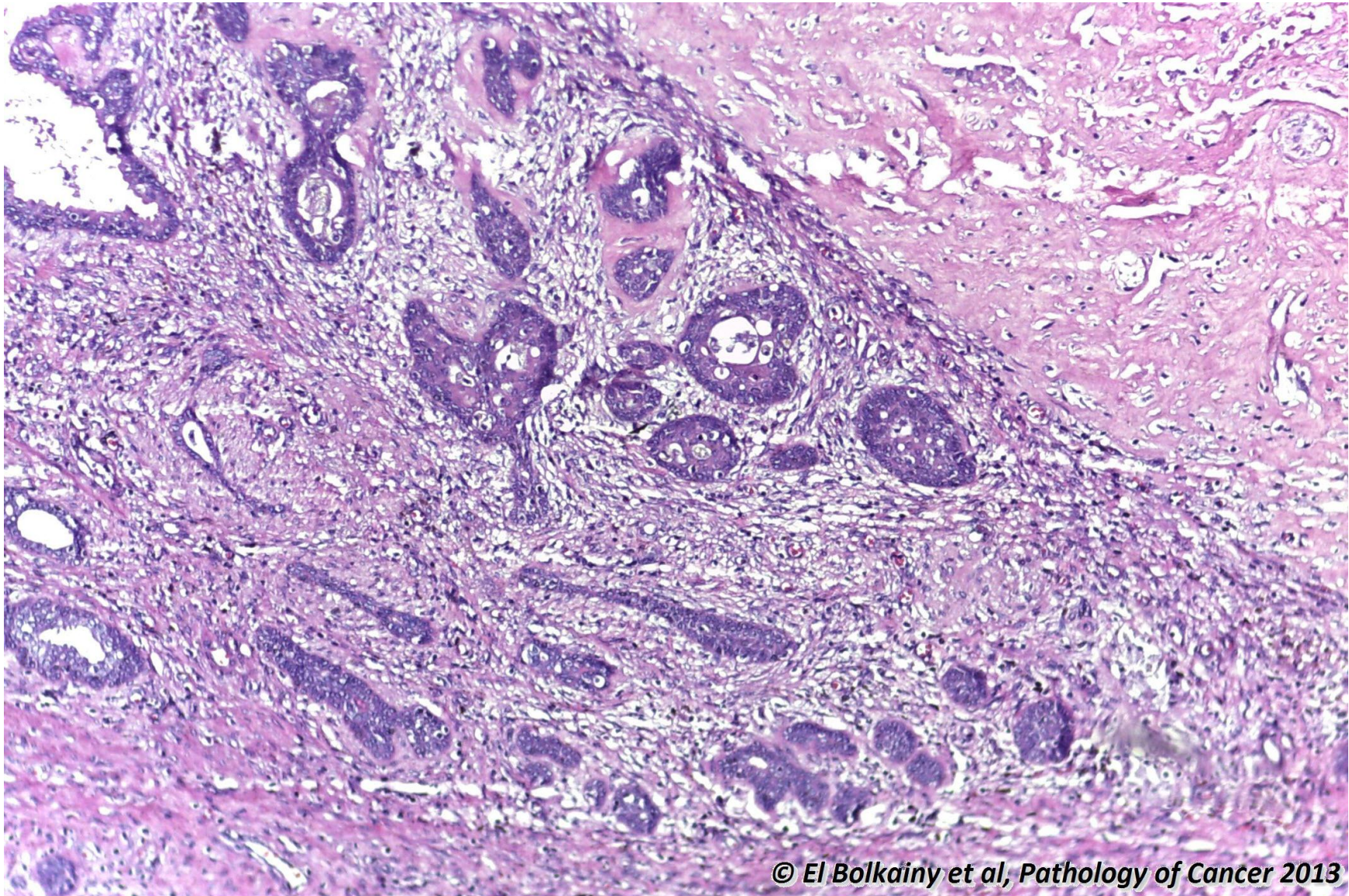


Picture 16-17

Granulomatous prostatitis, histology. **A** A solid mixture of small inflammatory cells, as well as, mononuclear cells. The latter may be confused with malignant cells. **B** High power showing histiocytes with vacuolated cytoplasm. Their nature should be confirmed by CD68+ and CK-.

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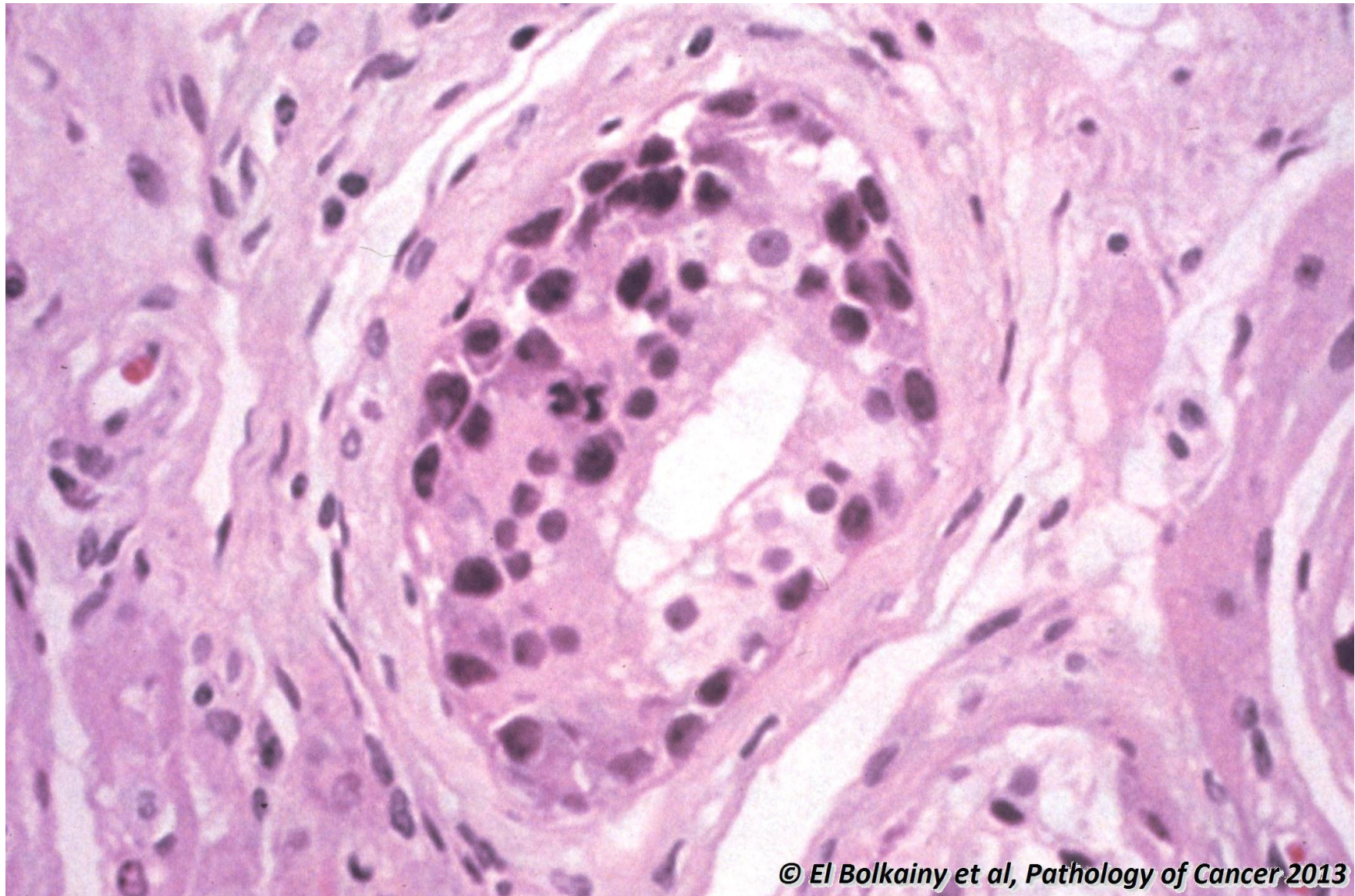
16.18 Prostatic infarction, histology.



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Picture 16-18 Prostatic infarction, histology. Areas of coagulative necrosis typically seen involving the glands and stroma (pinkish area at upper left). The ducts at the periphery of the infarct show squamous metaplasia which should not be mistaken for squamous cell carcinoma.

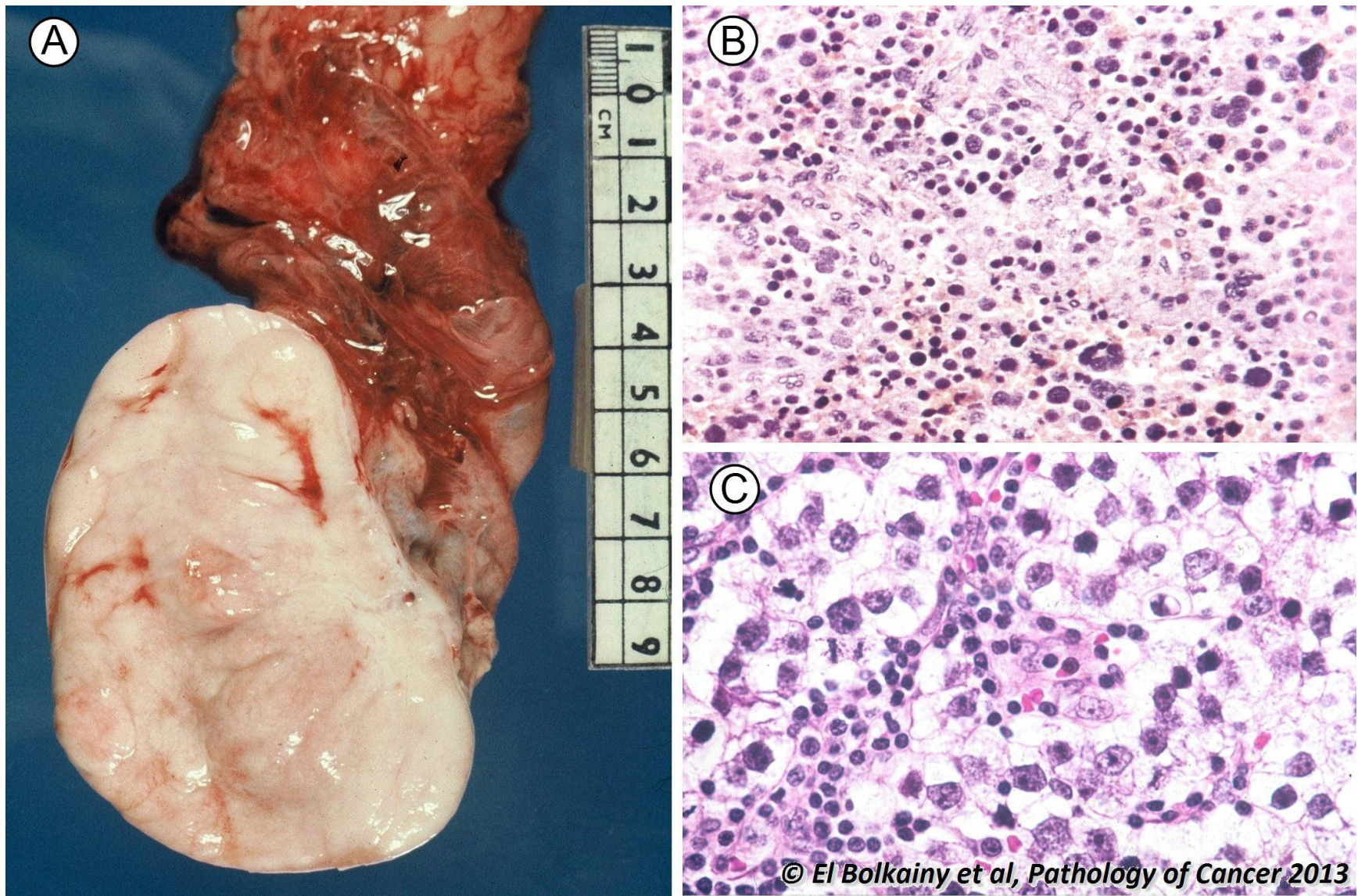
16.19 Intratubular germ cell neoplasia (IGCN), histology.



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Picture 16-19 Intratubular germ cell neoplasia (IGCN), histology. Neoplastic intratubular germ cells are scattered along the basement membrane of the seminiferous tubules. Spermatogenesis is absent.

16.20 Seminoma.

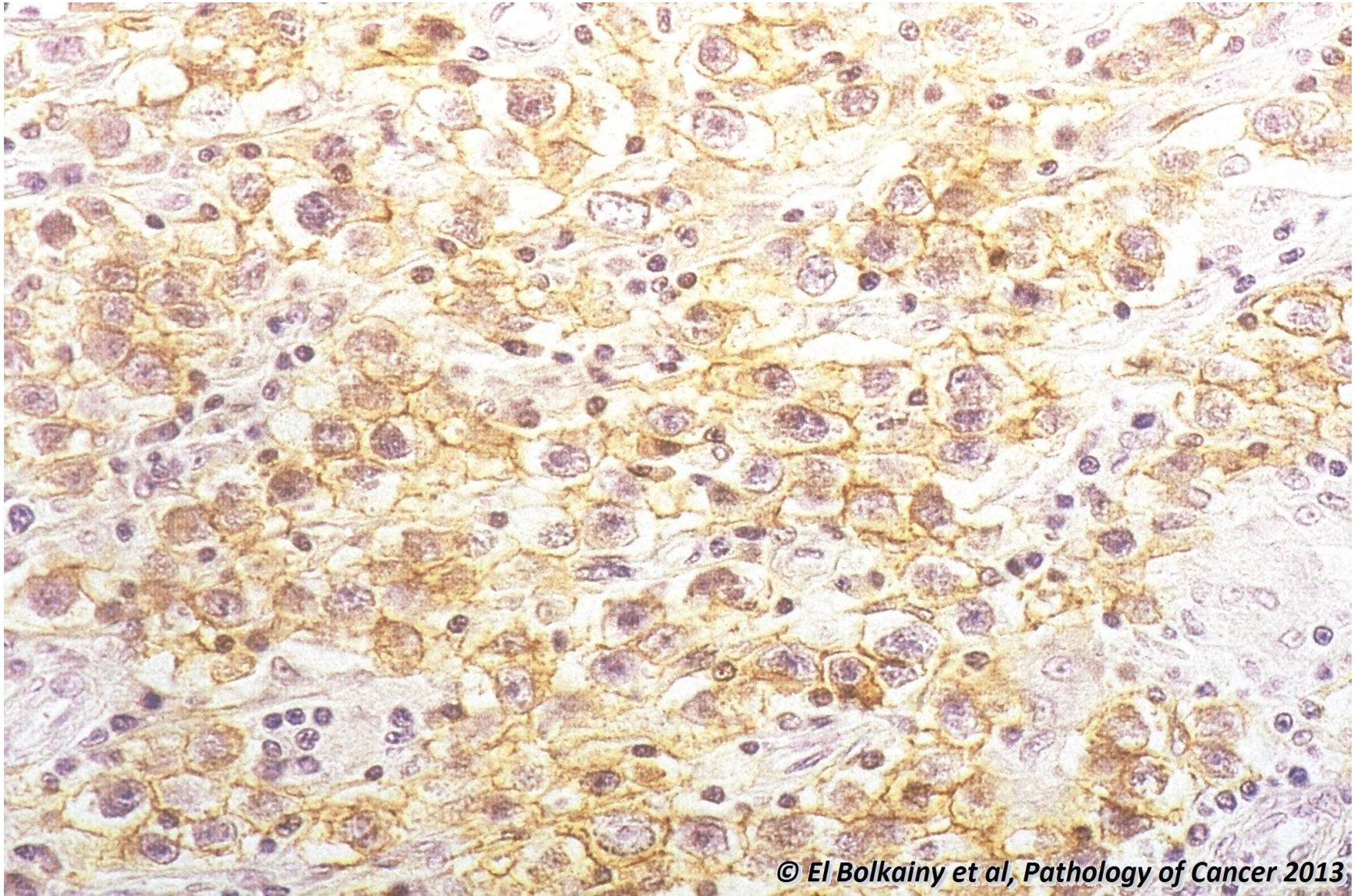


Picture 16-20

Seminoma. **A** Grossly, it shows multinodular bulging creamy tan fleshy cut section. **B** Diffuse sheets of loosely cohesive tumor cells with intervening lymphocytes. **C** High power. Tumor cells are round with clear cytoplasm and well-defined border.

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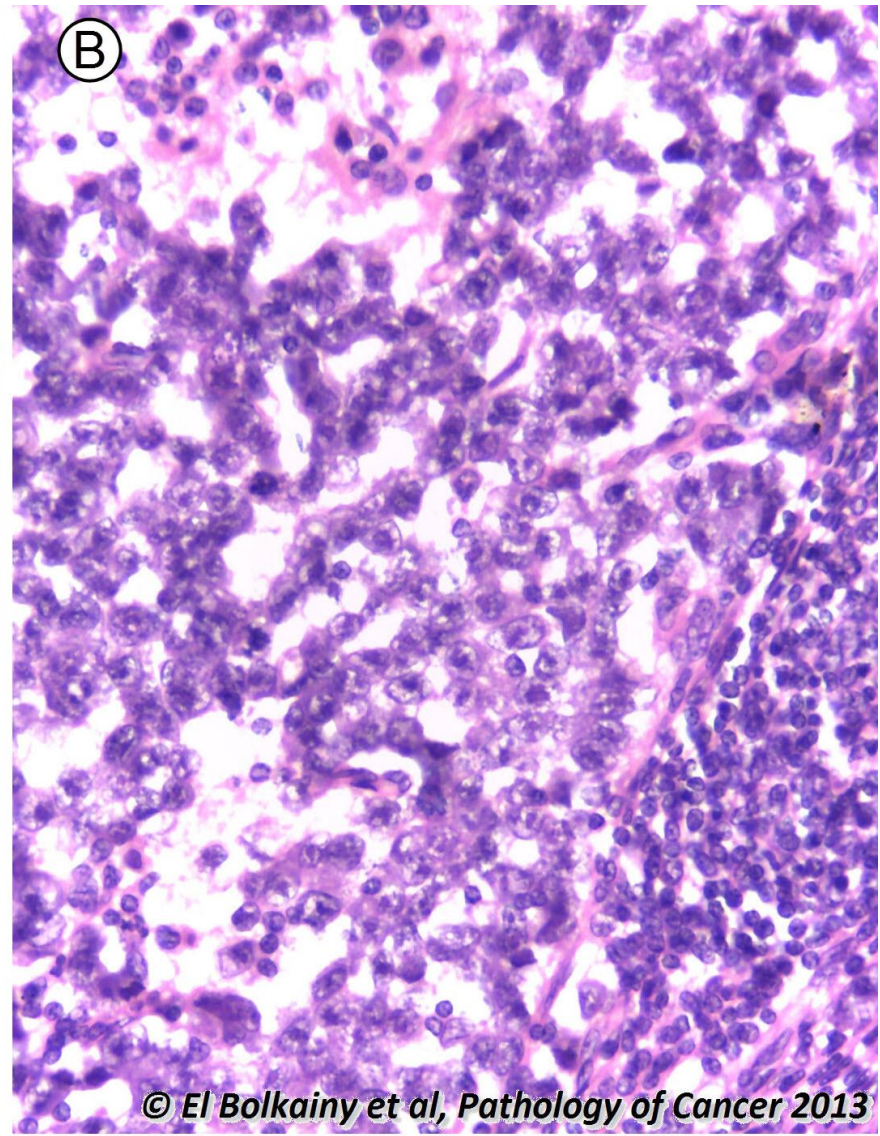
16.21 Seminoma, PLAP immunostaining.



**Picture
16-21**

Seminoma, PLAP immunostaining. It shows strong membranous staining.

16.22 Embryonal carcinoma.

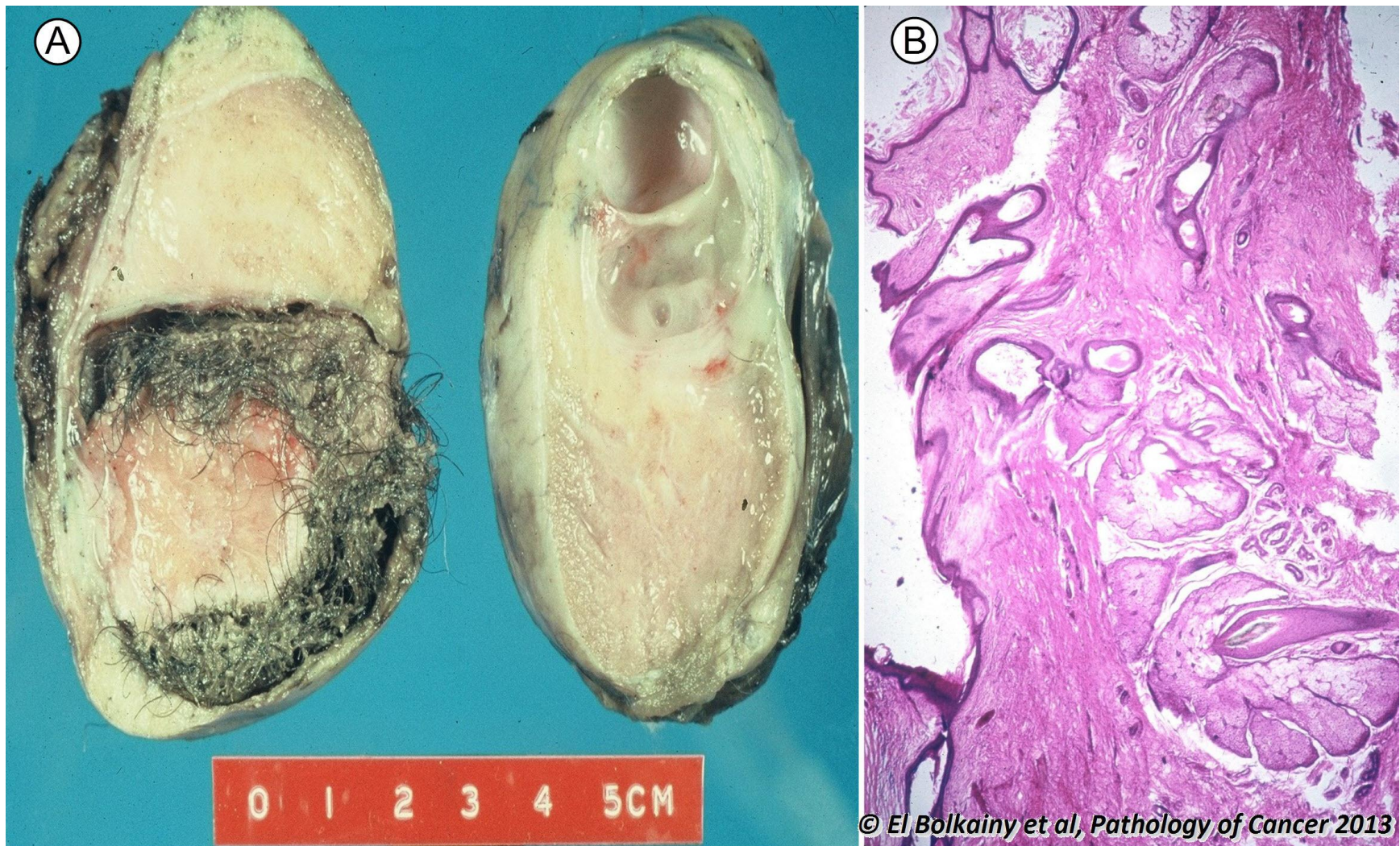


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Picture 16-22

Embryonal carcinoma. **A** Grossly, it appears as poorly circumscribed gray white mass with areas of hemorrhage and necrosis. **B** Cohesive clusters of primitive anaplastic epithelial cells with abundant cytoplasm, large vesicular nuclei with prominent nucleoli.

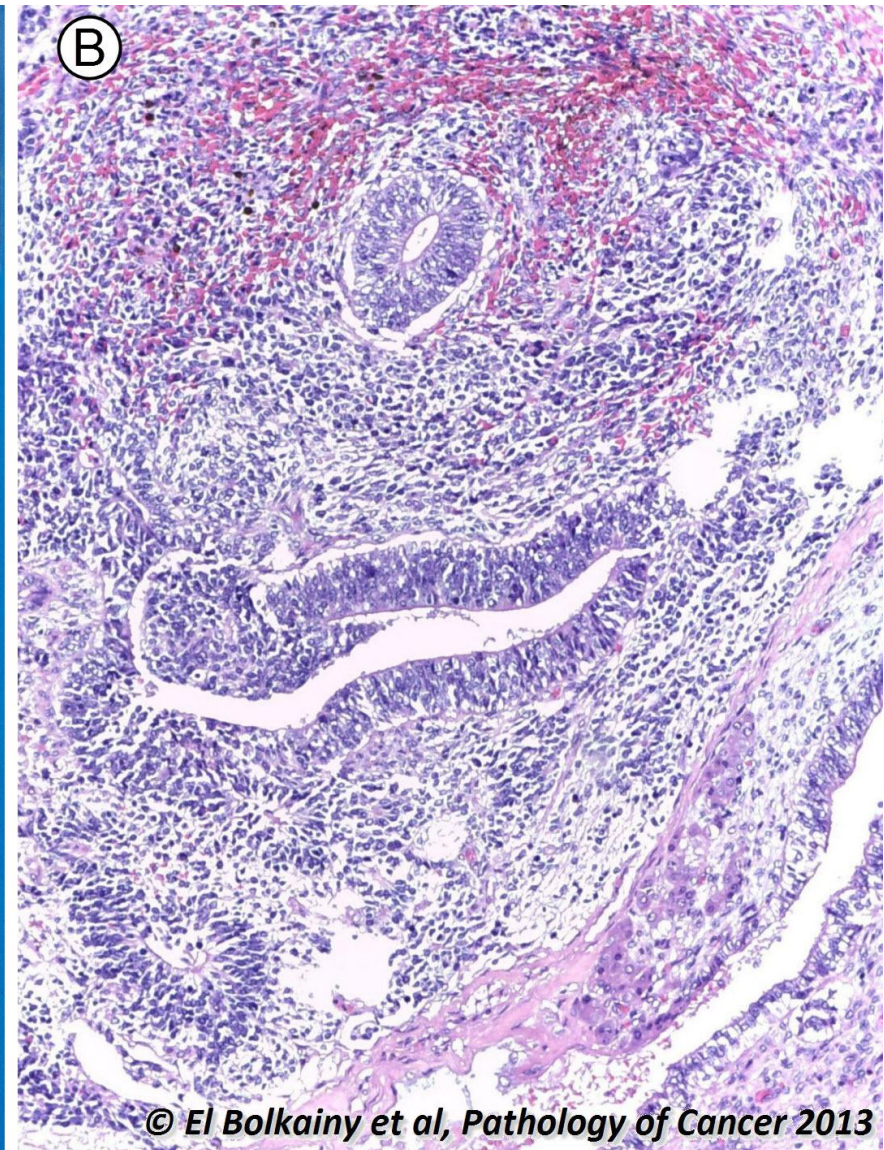
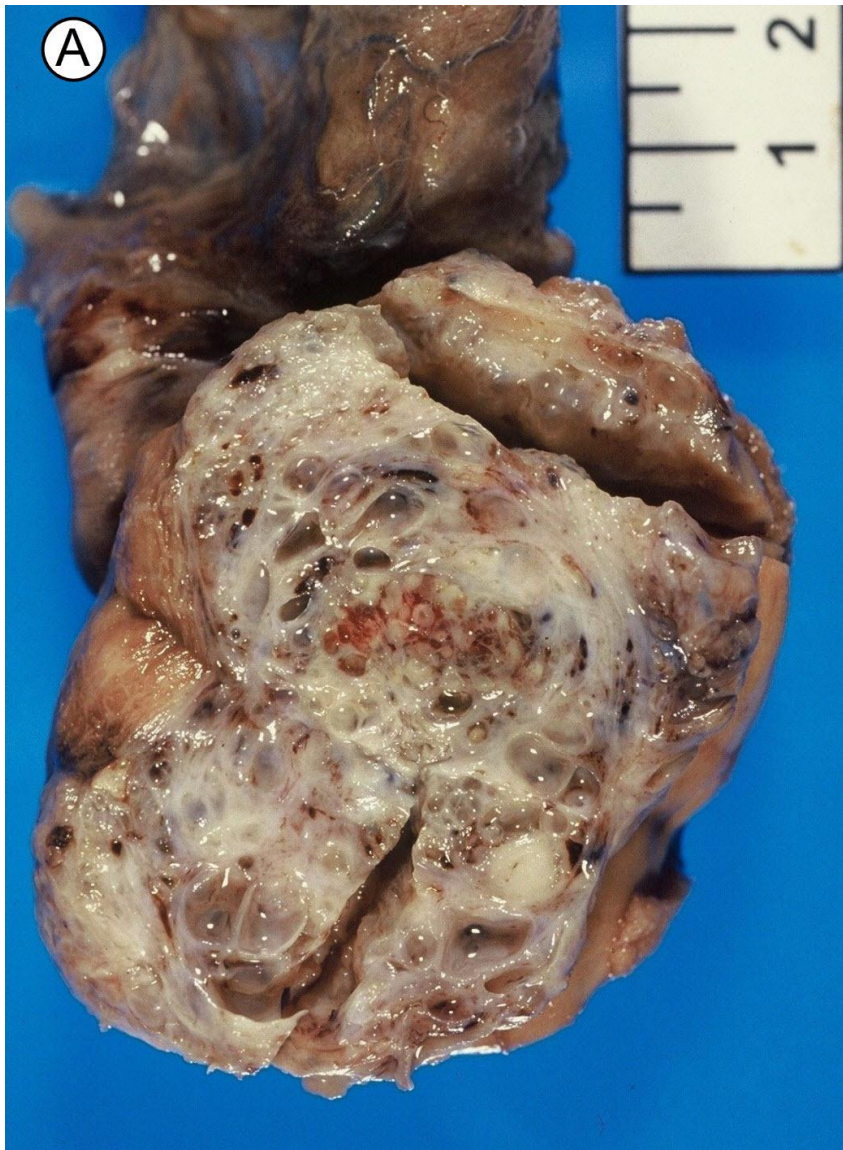
16.23 Dermoid cyst.



Picture 16-23 Dermoid cyst. **A** Grossly, a cyst filled with hair. **B** A cyst lined by mature squamous epithelium and contains adnexal structures. Such tumor shows a benign clinical course in children.

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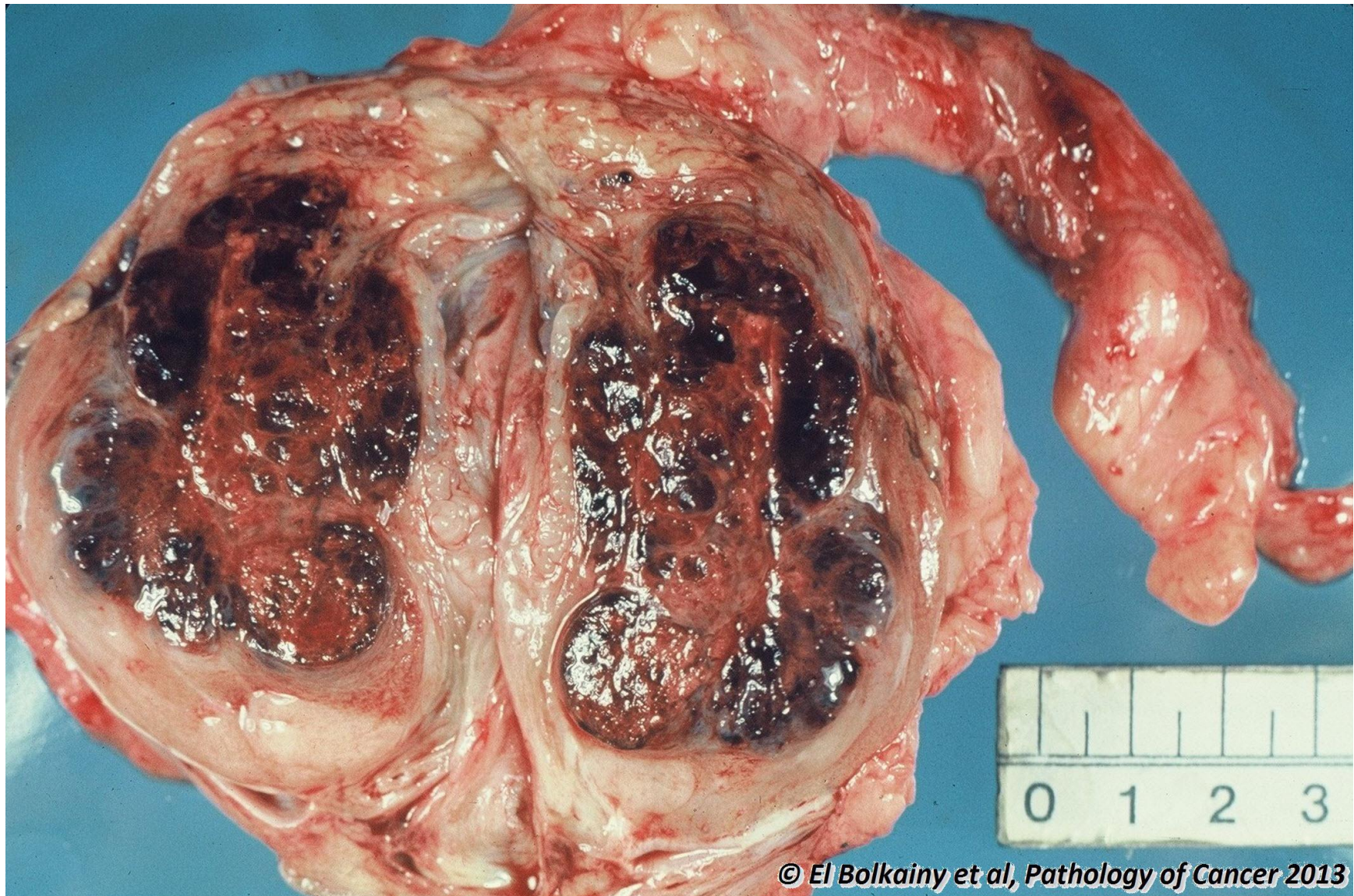
16.24 Immature teratoma.



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Picture 16-24 Immature teratoma. **A** Grossly, it is solid with cysts (< 1 mm). The solid areas are fleshy with hemorrhagic foci. **B** Histologically, it consists of immature tissue, mostly neural. The picture shows undifferentiated blastema and embryonic neural tubules.

16.25 Choriocarcinoma, gross appearance.

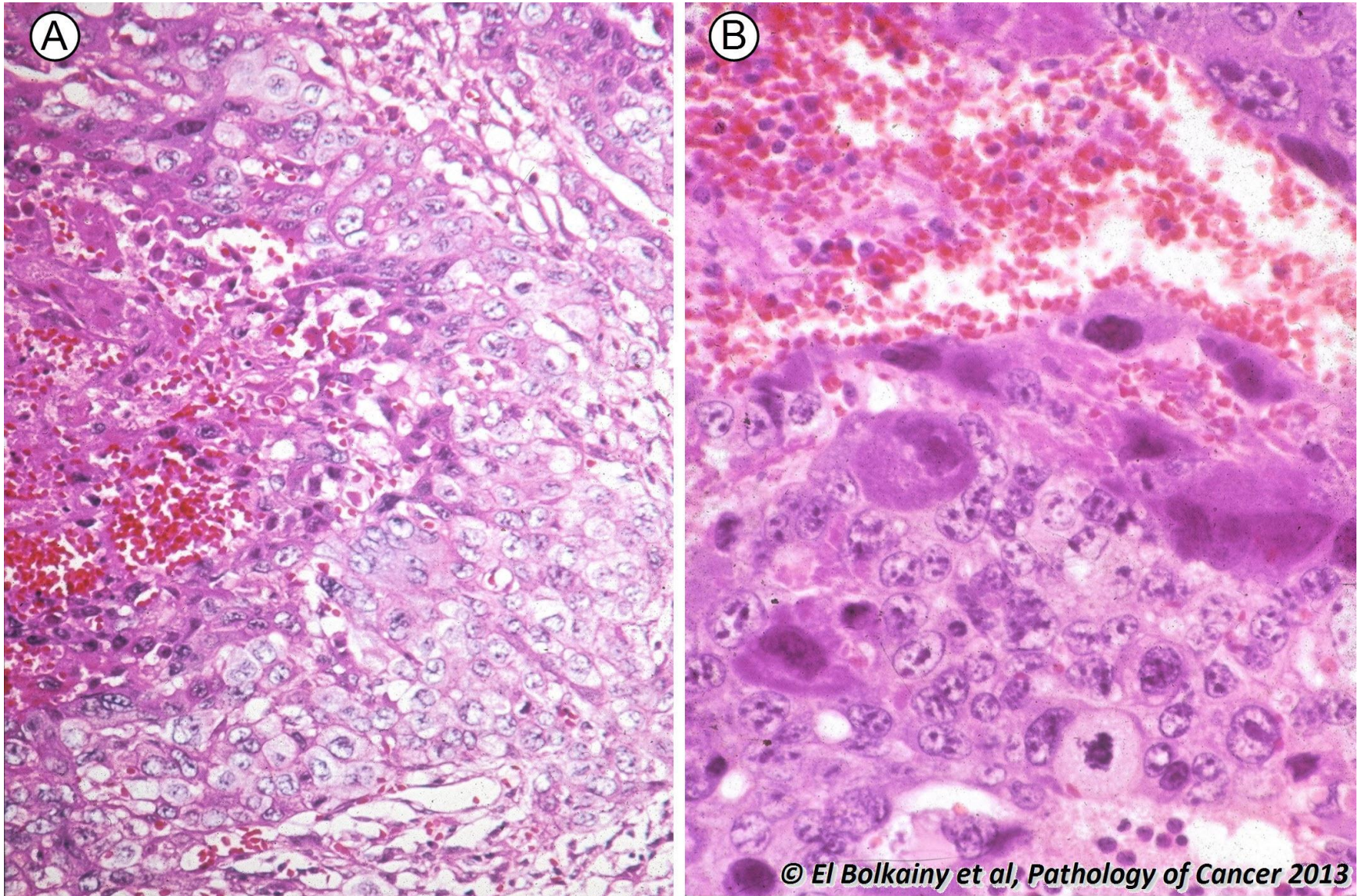


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**Picture
16-25**

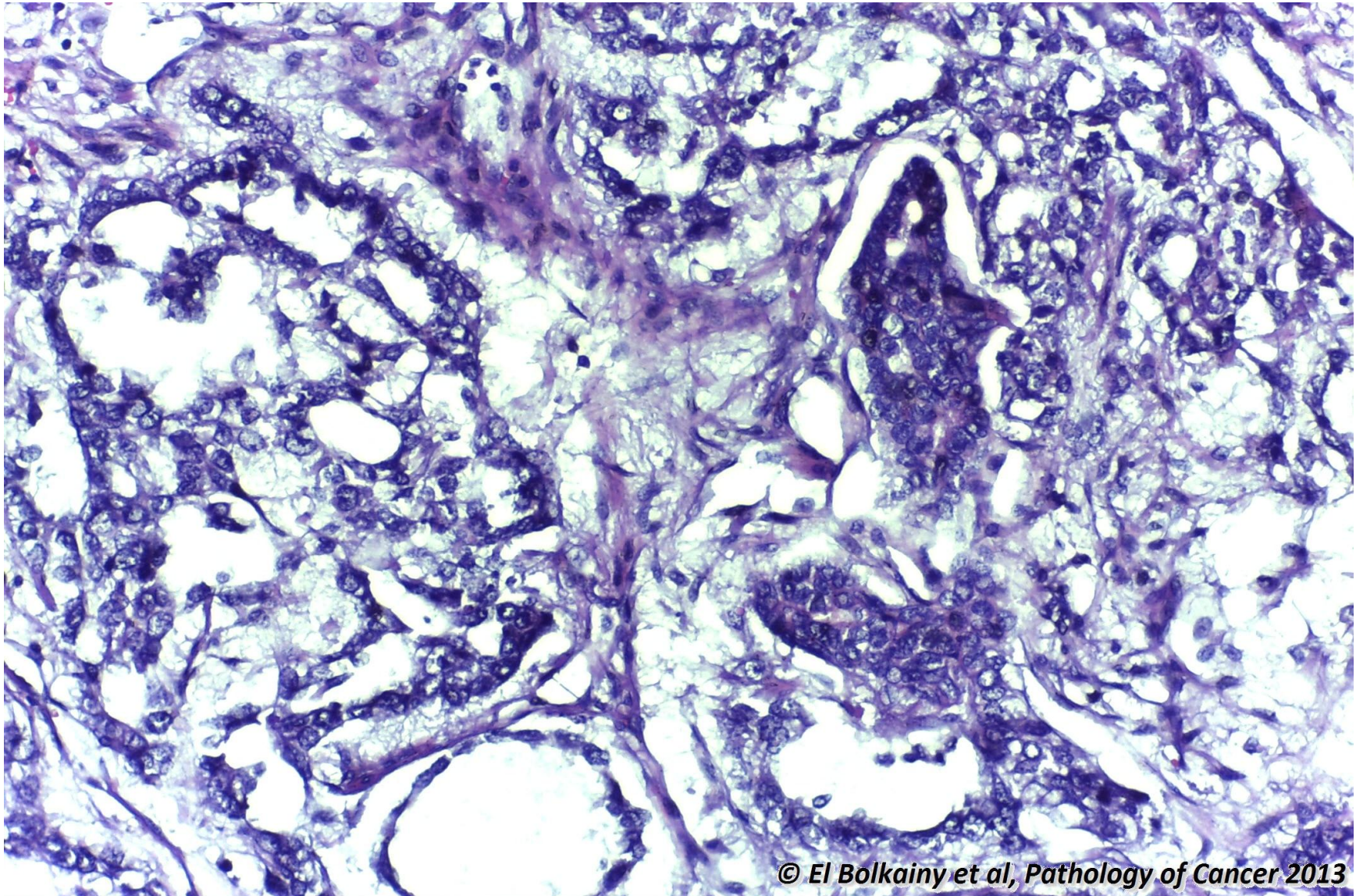
Choriocarcinoma, gross appearance. It appears as multinodular tumor with areas of hemorrhage and necrosis.

16.26 Choriocarcinoma, histology.



Picture 16-26 Choriocarcinoma, histology. **A** Low power. **B** High power. It shows mononucleated cytotrophoblasts and multinucleated syncytiotrophoblasts. Hemorrhage and necrosis are prominent. It is typically seen as a component of mixed germ cell tumor.

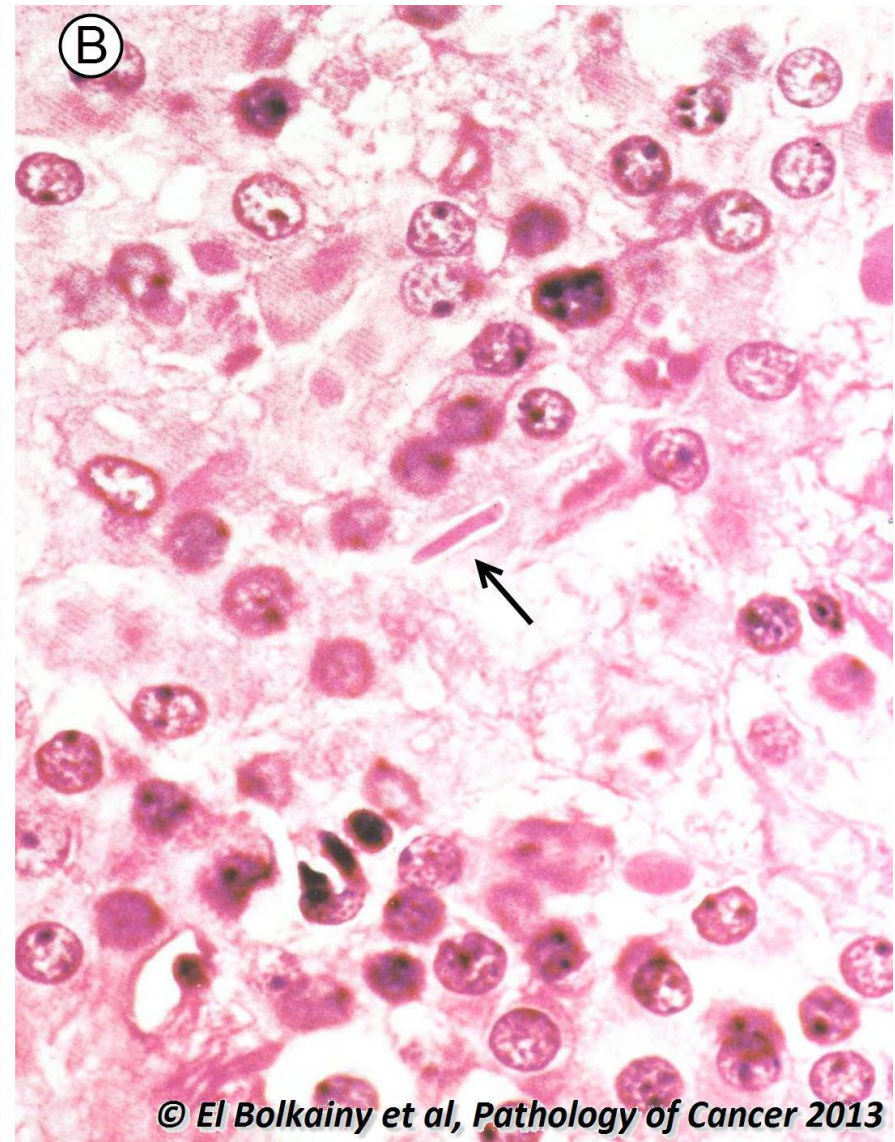
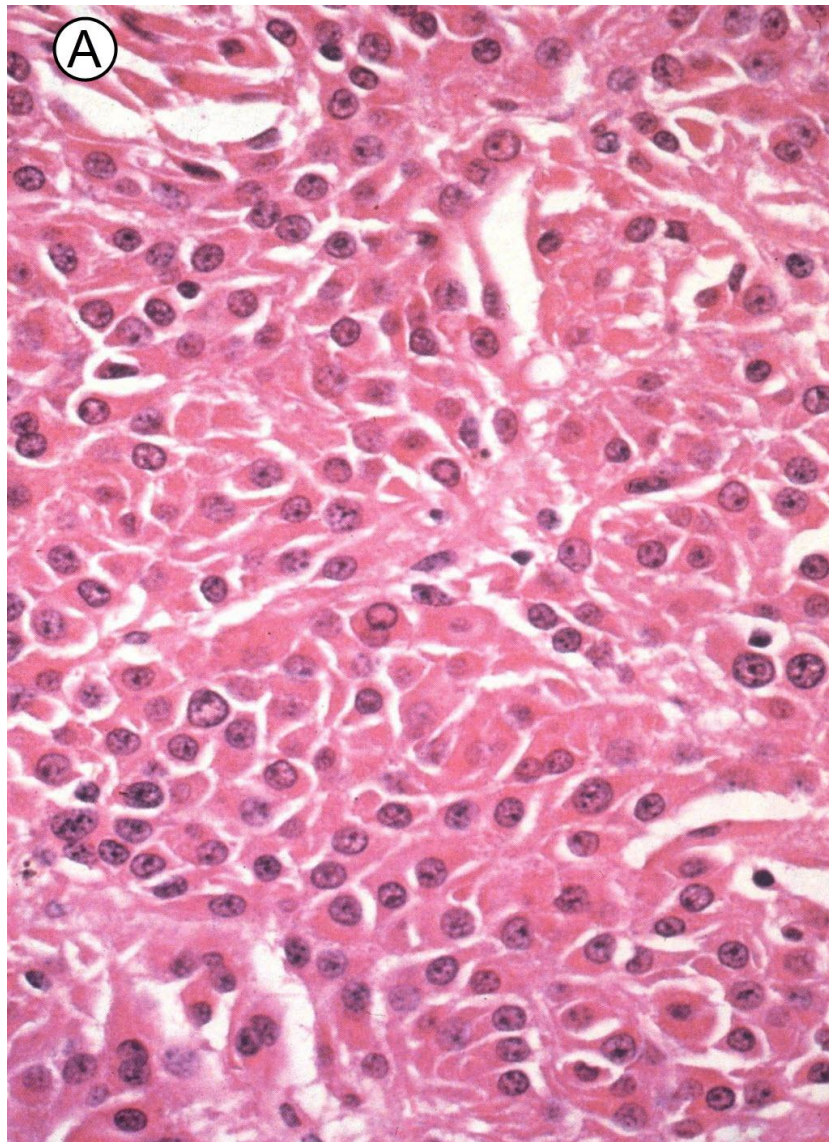
16.27 Yolk sac tumor, histology.



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Picture 16-27 Yolk sac tumor, histology. It shows microcystic pattern with myxoid stroma. A characteristic Schiller-Duval bodies are characteristic with a glomerulus structure filling a lumen.

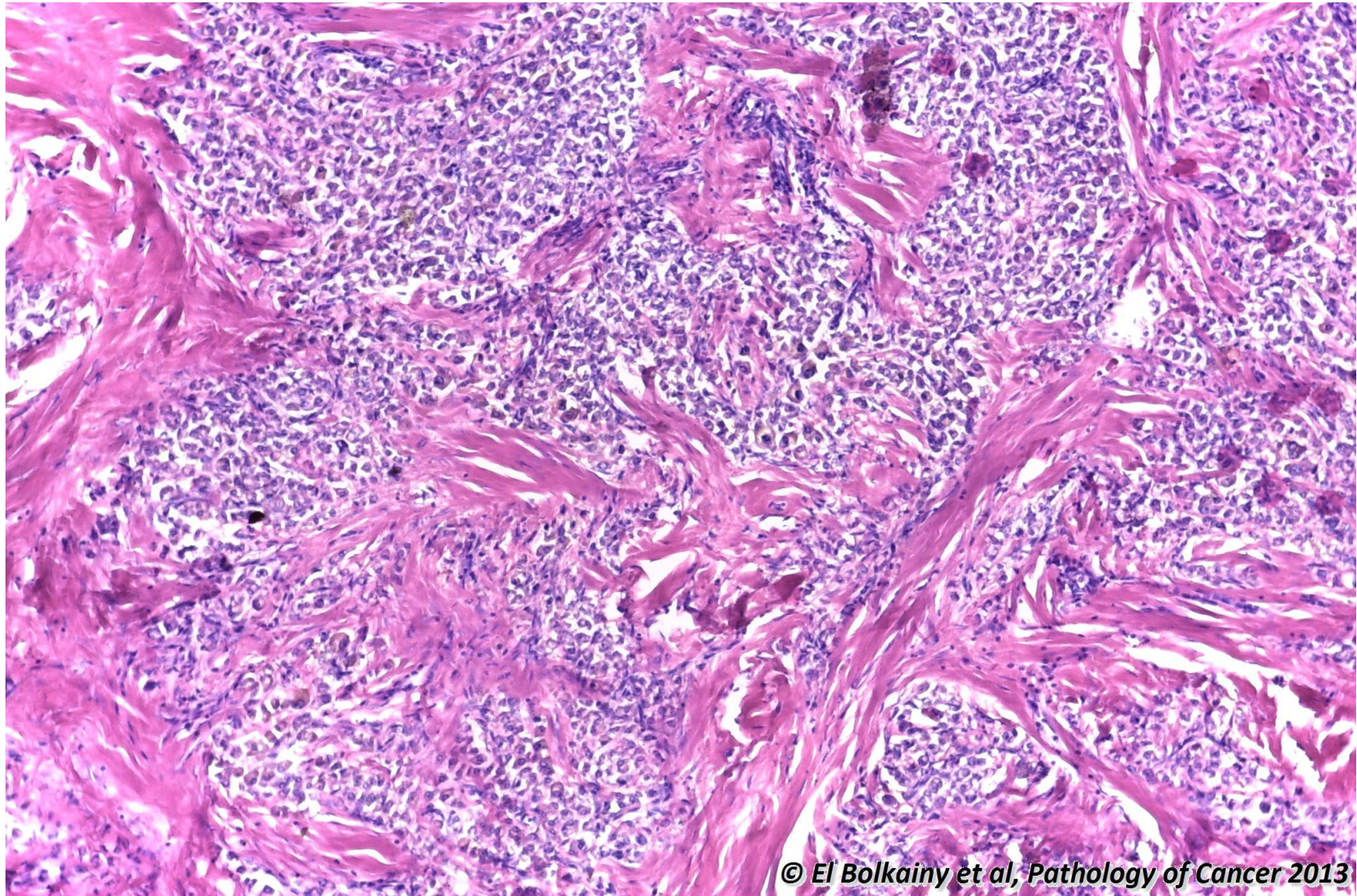
16.28 Leydig cell tumor, histology.



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Picture 16-28 Leydig cell tumor, histology. **A** It shows sheets and nests of polygonal cells with round nuclei, prominent central nucleoli and abundant eosinophilic cytoplasm. **B** Rod shaped Reinke crystals are characteristic (arrow)

16.29 Leydig cell tumor of adrenogenital syndrome, histology.

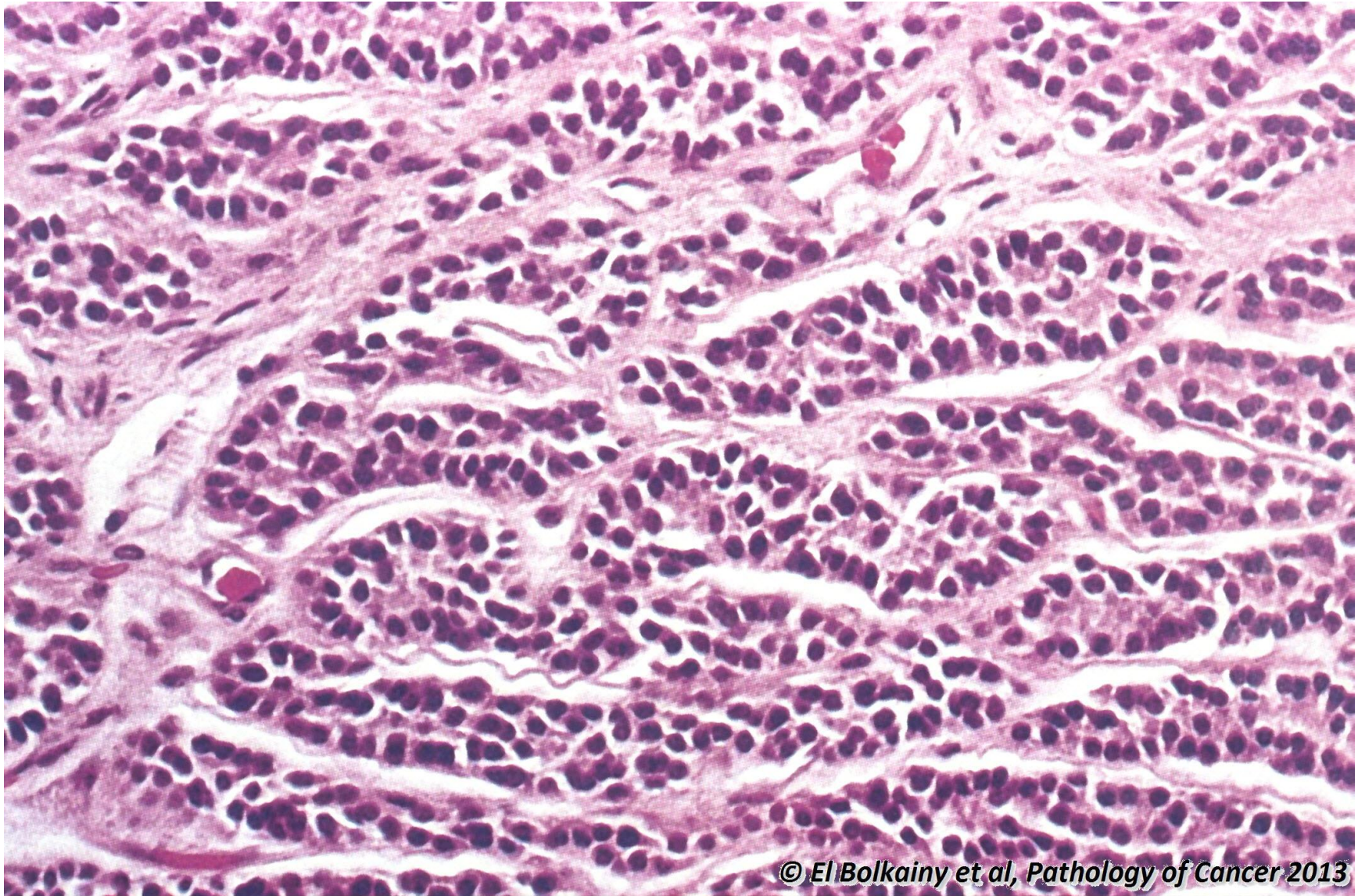


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**Picture
16-29**

Leydig cell tumor of adrenogenital syndrome, histology. It presents by a multinodular interstitial non-expansile pattern with surrounding fibrous hyalinized stroma. Such a condition is reversible on corticosteroid therapy, hence, orchiectomy should be avoided.

16.30 Sertoli cell tumor, histology.



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**Picture
16-30**

Sertoli cell tumor, histology. It shows trabecular and tubular structures. Most tumors are benign.

16.31 Teratocarcinoma, grossly.

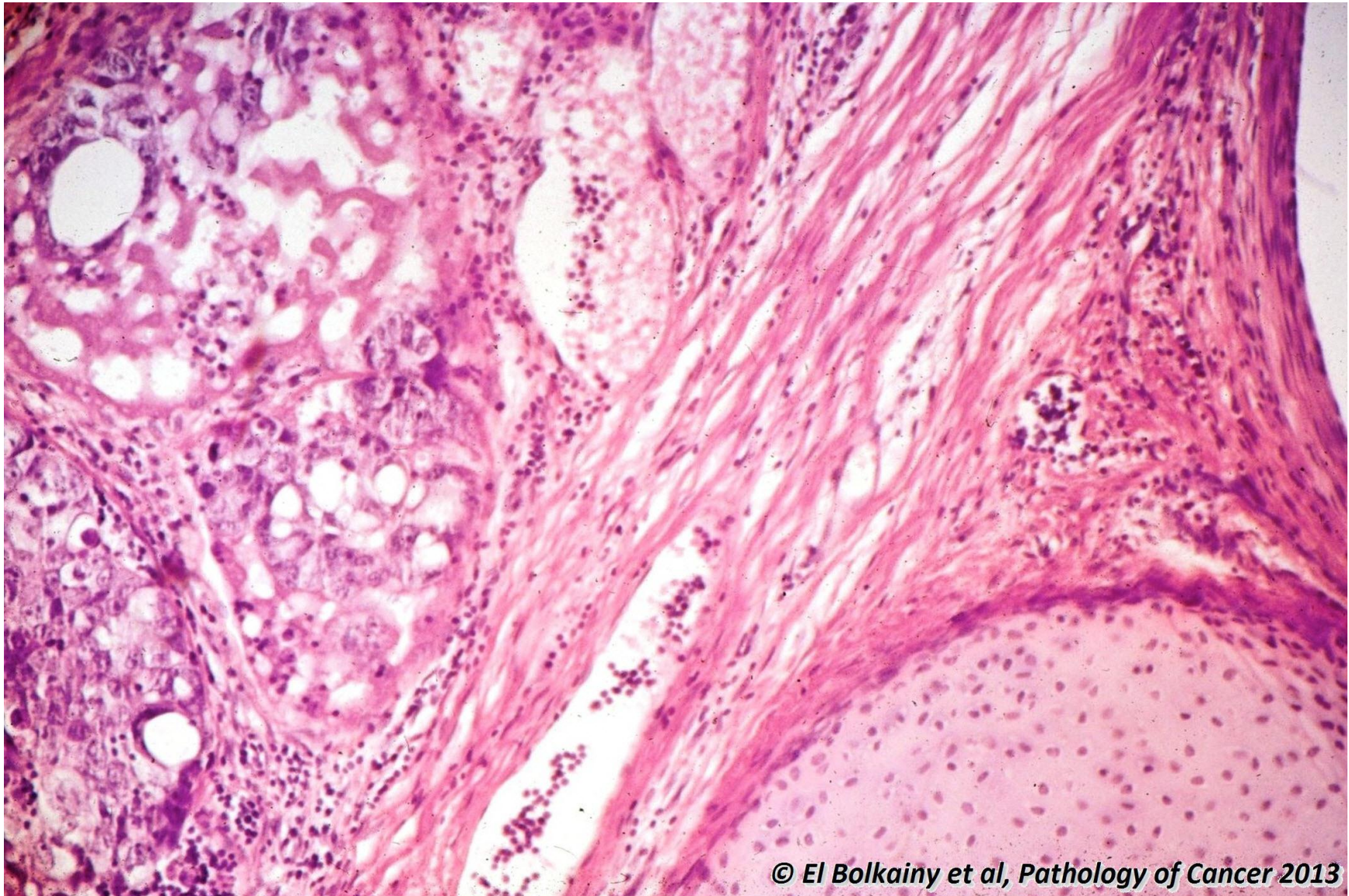


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Picture
16-31

Teratocarcinoma, grossly. A greyish white solid mass with cystic areas invading testicular tissue.

16.32 Teratocarcinoma, histology.



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Picture 16-32 Teratocarcinoma, histology. This tumor is formed of a mixture of embryonal carcinoma and teratoma. It shows tubules of anaplastic epithelial cells with vesicular nuclei and prominent micronucleoli (L.t. side) with areas of mature cartilage (Rt. side).

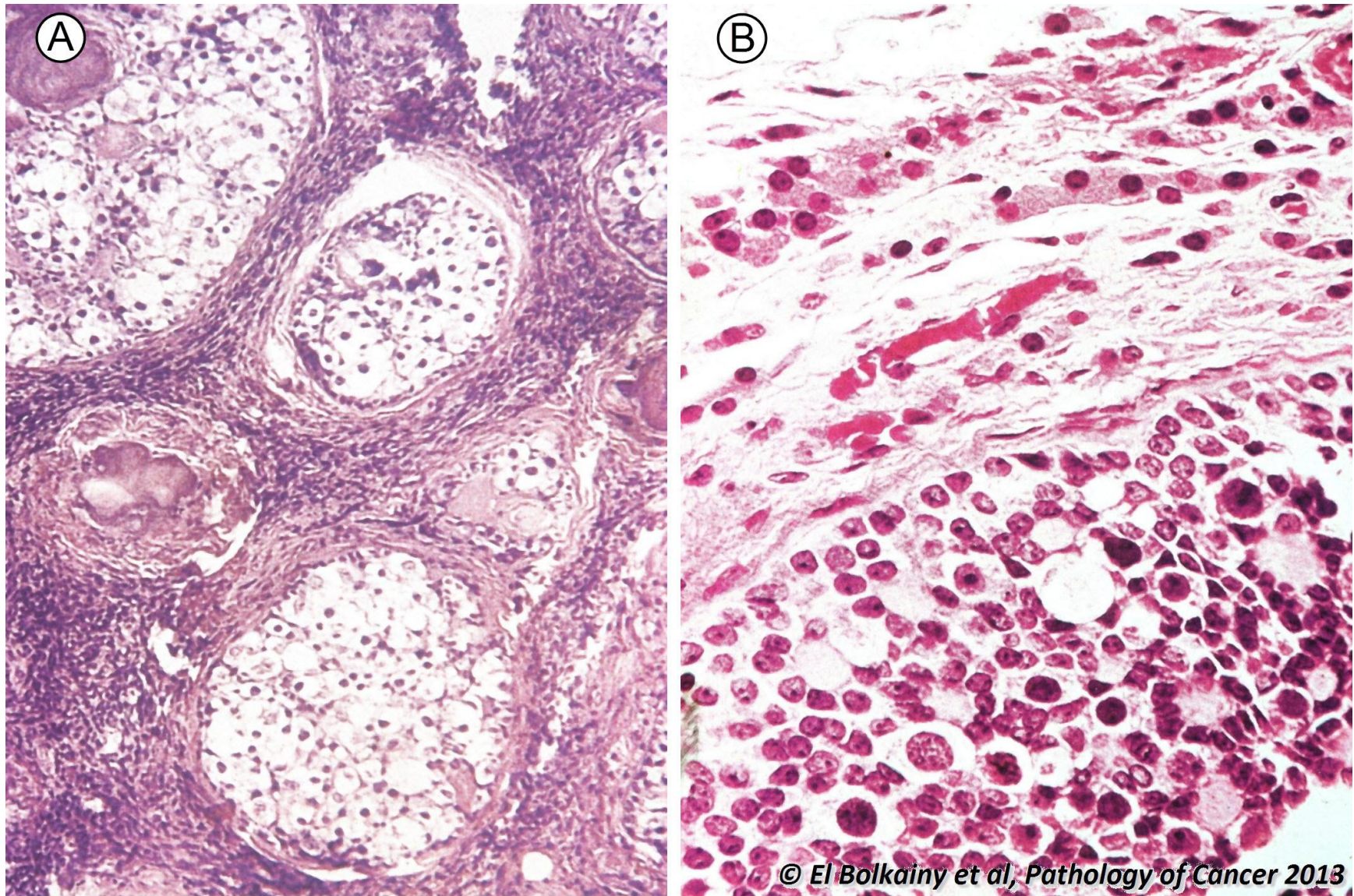
16.33 Polyembryoma, histology.



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Picture 16-33 Polyembryoma, histology. It is formed of a central germ disc with the amniotic cavity anteriorly and yolk sac posteriorly. It is composed of embryoid bodies simulating embryonic blastocyst. It is a rare germ cell tumor that may present as a component of mixed germ cell tumor.

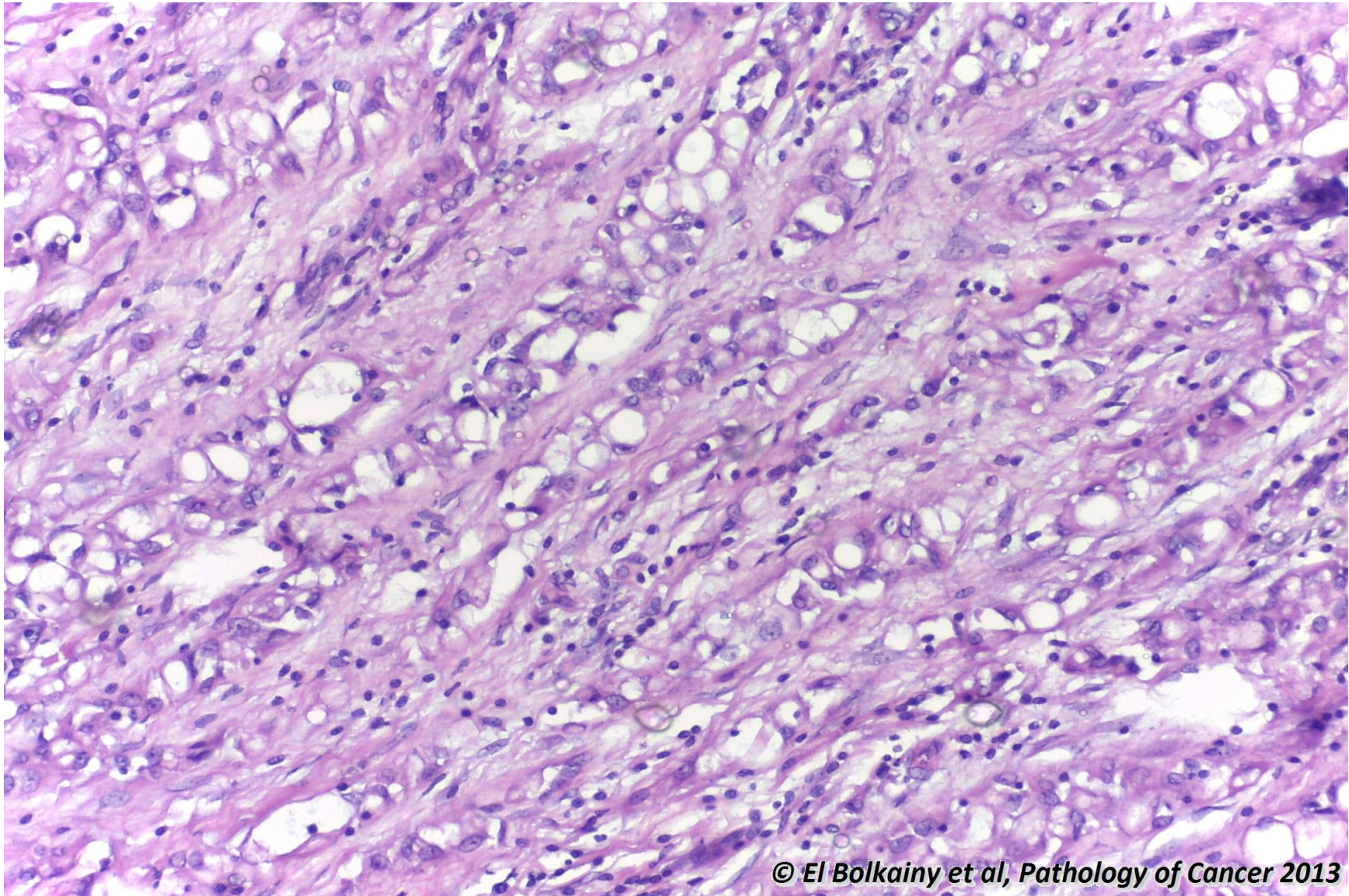
16.34 Gonadoblastoma, histology.



Picture 16-34 Gonadoblastoma, histology. **A** Low power. **B** High power. Mixed population of sex-cord stromal cells (sertoli or granulosa) and neoplastic germ cells associated with hyalinization and microcalcification in well defined nests.

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16.35 Adenomatoid tumor, histology.



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Picture 16-35 Adenomatoid tumor, histology. A mesothelial tumor composed of variable sized tubular structures lined by bland low cuboidal epithelial cells set in a fibrous stroma.

16.36 Fibrous pseudotumor, gross appearance.

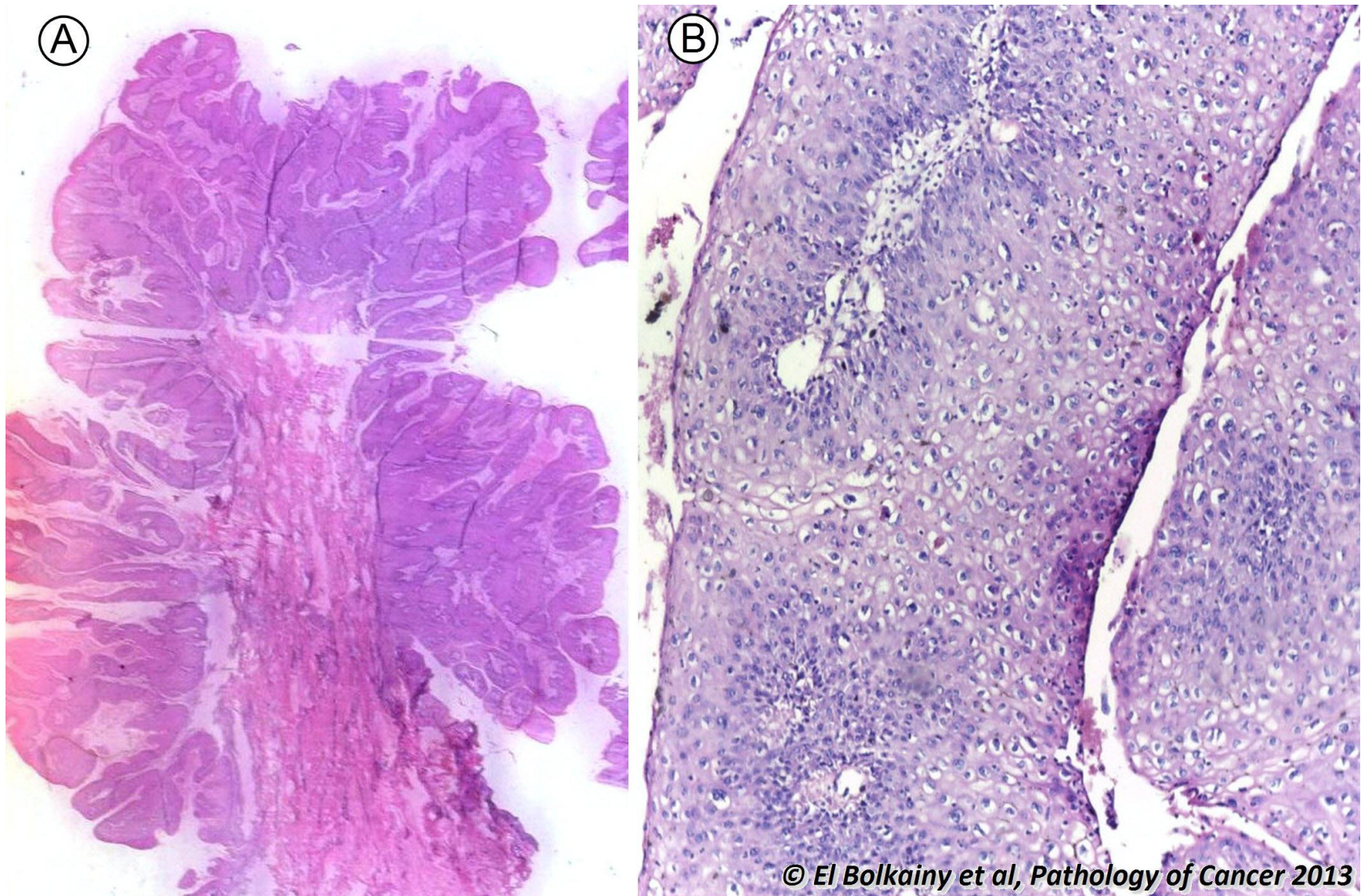


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**Picture
16-36**

Fibrous pseudotumor, gross appearance. It is a tumor-like lesion that presents by a solid mass outside tunica.

16.37 Condyloma acuminatum (genital wart). Histology.



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Picture 16-37

Condyloma acuminatum (genital wart), histology. A Computer scan x5, showing an exophytic growth with branching papillary structures covered by hyperplastic squamous epithelium showing orderly maturation. B Koilocytosis; cells with hyperchromatic nuclei, minimal atypia and mitosis as well as perinuclear halo.

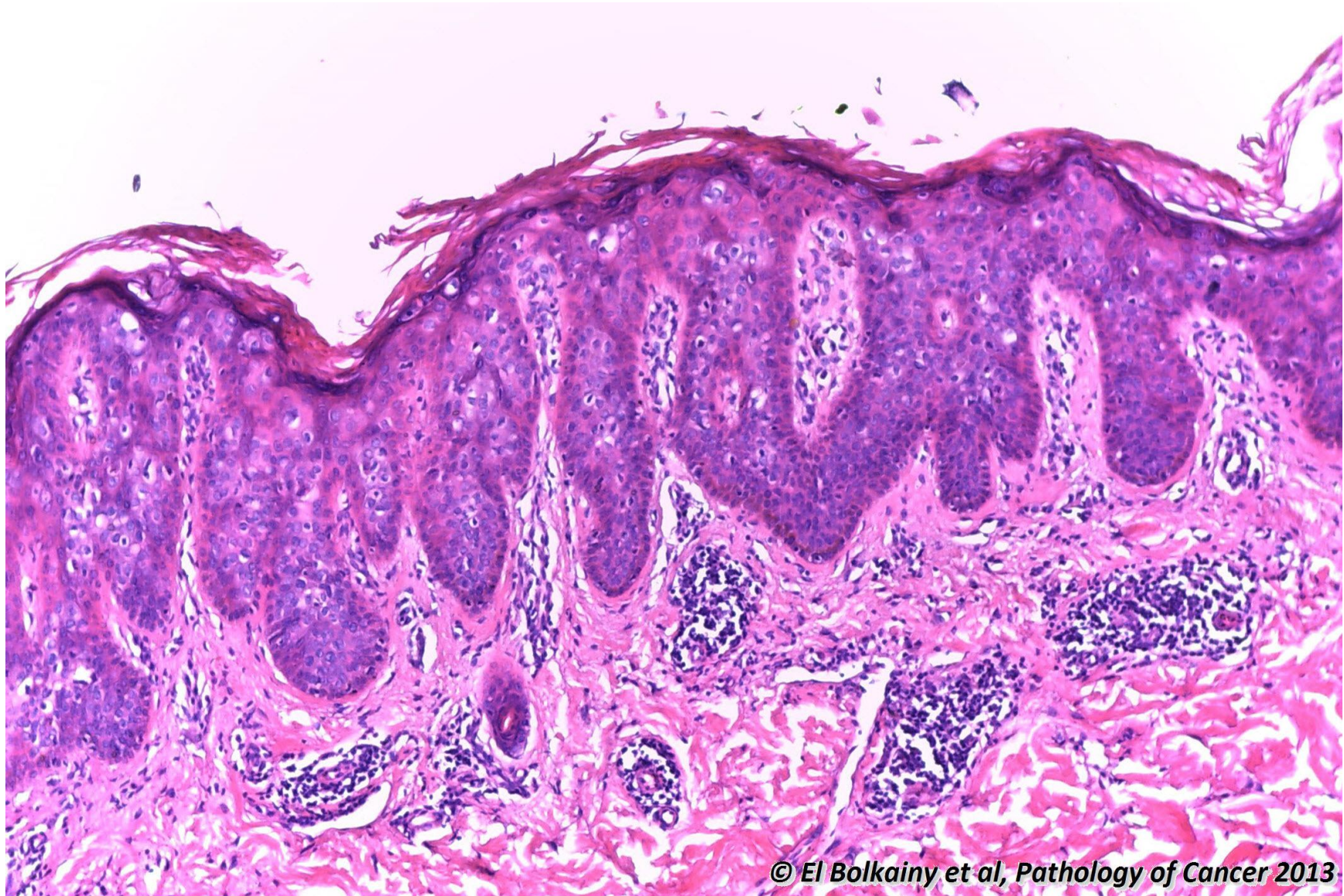
16.38 Advanced penile cancer, clinical appearance.



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Picture 16-38 Advanced penile cancer, clinical appearance. It shows a nodular ulcerative whitish soft tumor infiltrating most of the penile tissue.

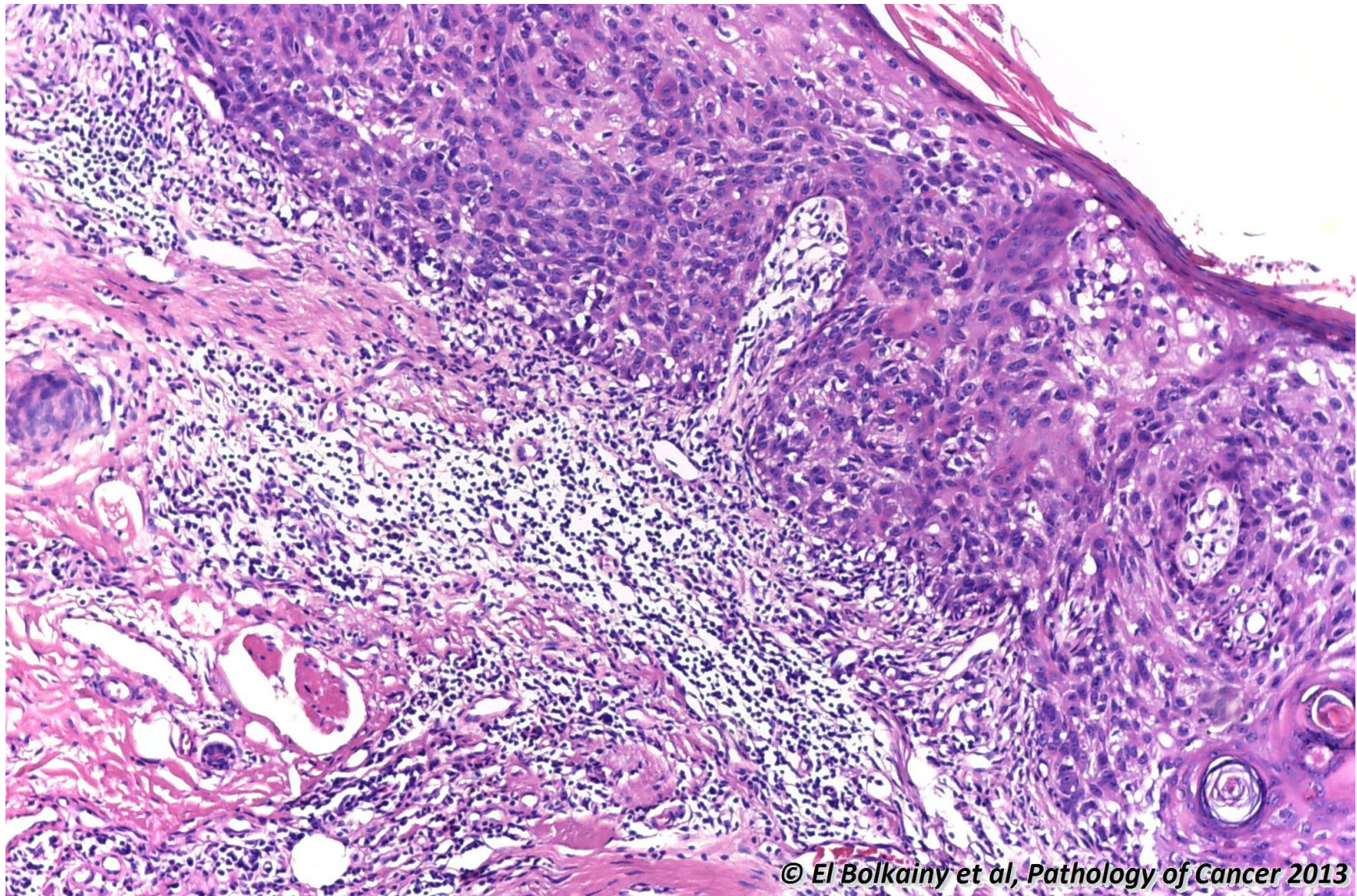
16.39 Erythroplasia of Queyrat, histology.



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Picture 16-39 Erythroplasia of Queyrat, histology. It shows malignant squamous cells scattered throughout epithelial thickness in a pagetoid pattern. It represents carcinoma in situ of the glans penis, with risk of progression 10-33%.

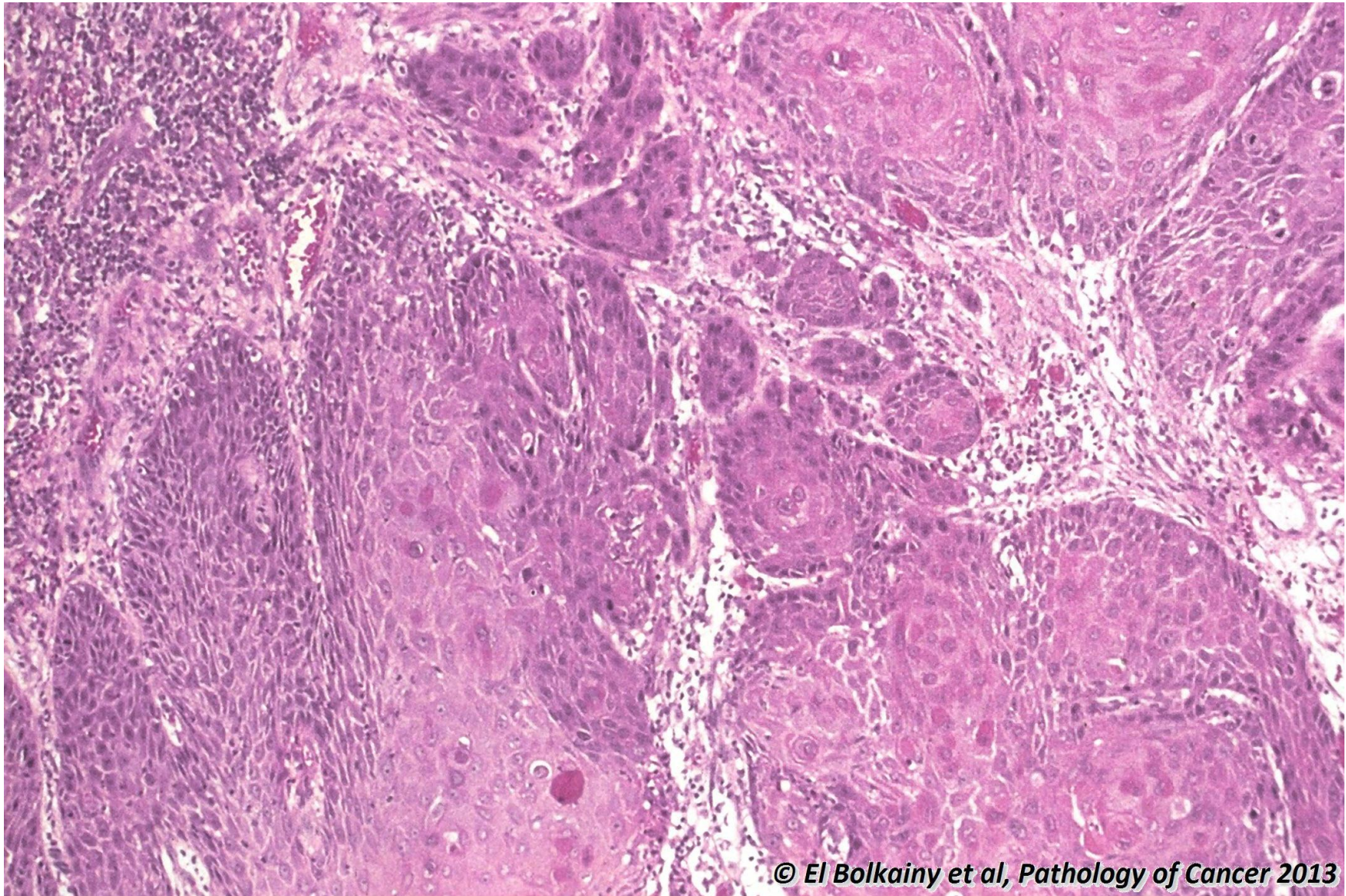
16.40 Bowen disease, histology.



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Picture 16-40 Bowen disease, histology. It is carcinoma in situ of the penile shaft with 5% risk of progression. It shows malignant squamous cells involving almost the entire epithelial thickness.

16.41 Squamous cell carcinoma, histology.

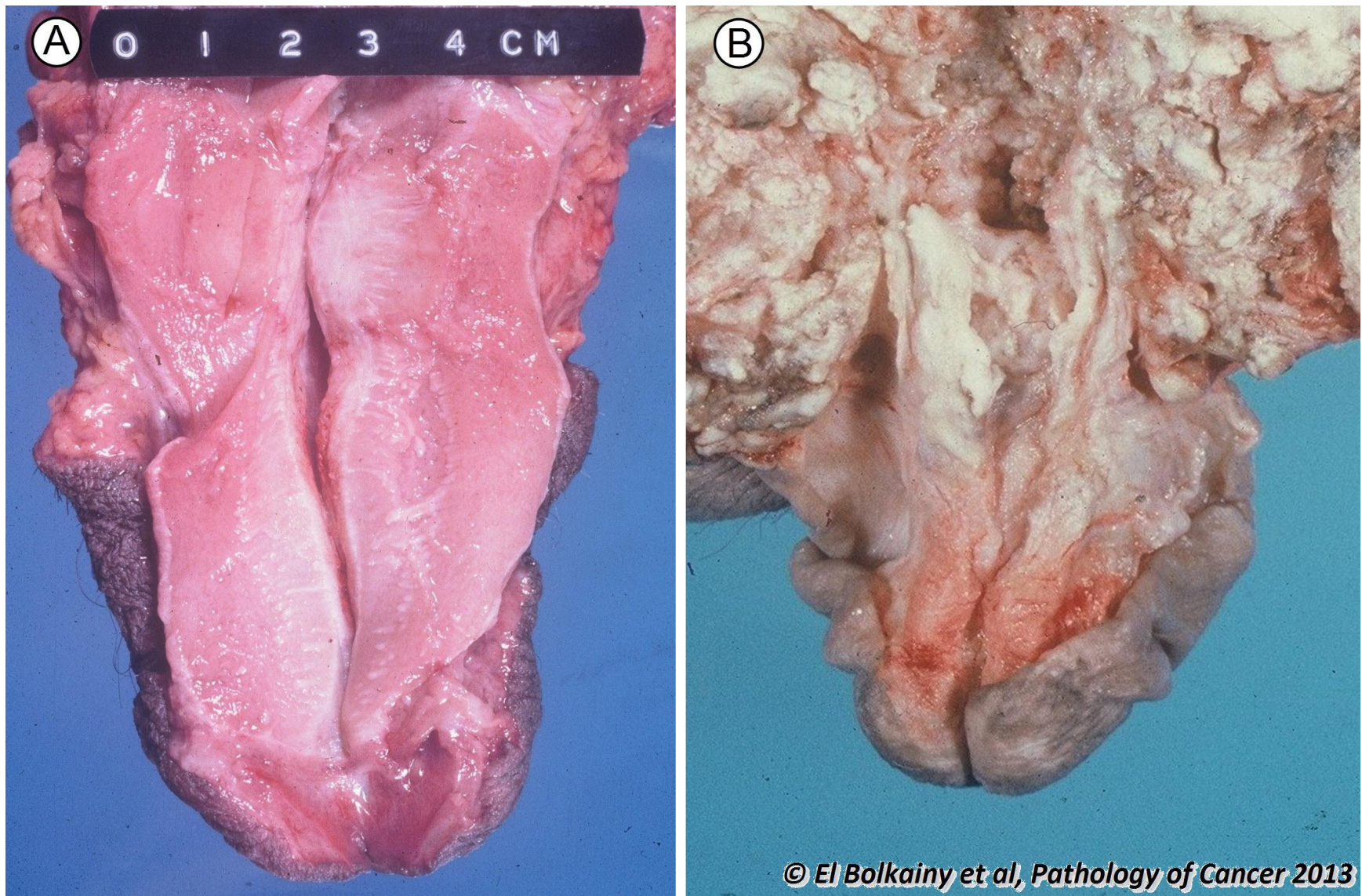


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**Picture
16-41**

Squamous cell carcinoma, histology. It shows nests of malignant squamous cells of moderate anaplasia.

16.42 Transitional cell carcinoma of the penile urethra, gross appearance.



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**Picture
16-42**

Transitional cell carcinoma of the penile urethra, gross appearance. A Localized to the urethra. **B** Advanced tumor invading periurethral tissue . This tumor type may be either observed as primary tumor or represent tumor recurrence in patients previously treated for bladder cancer.

