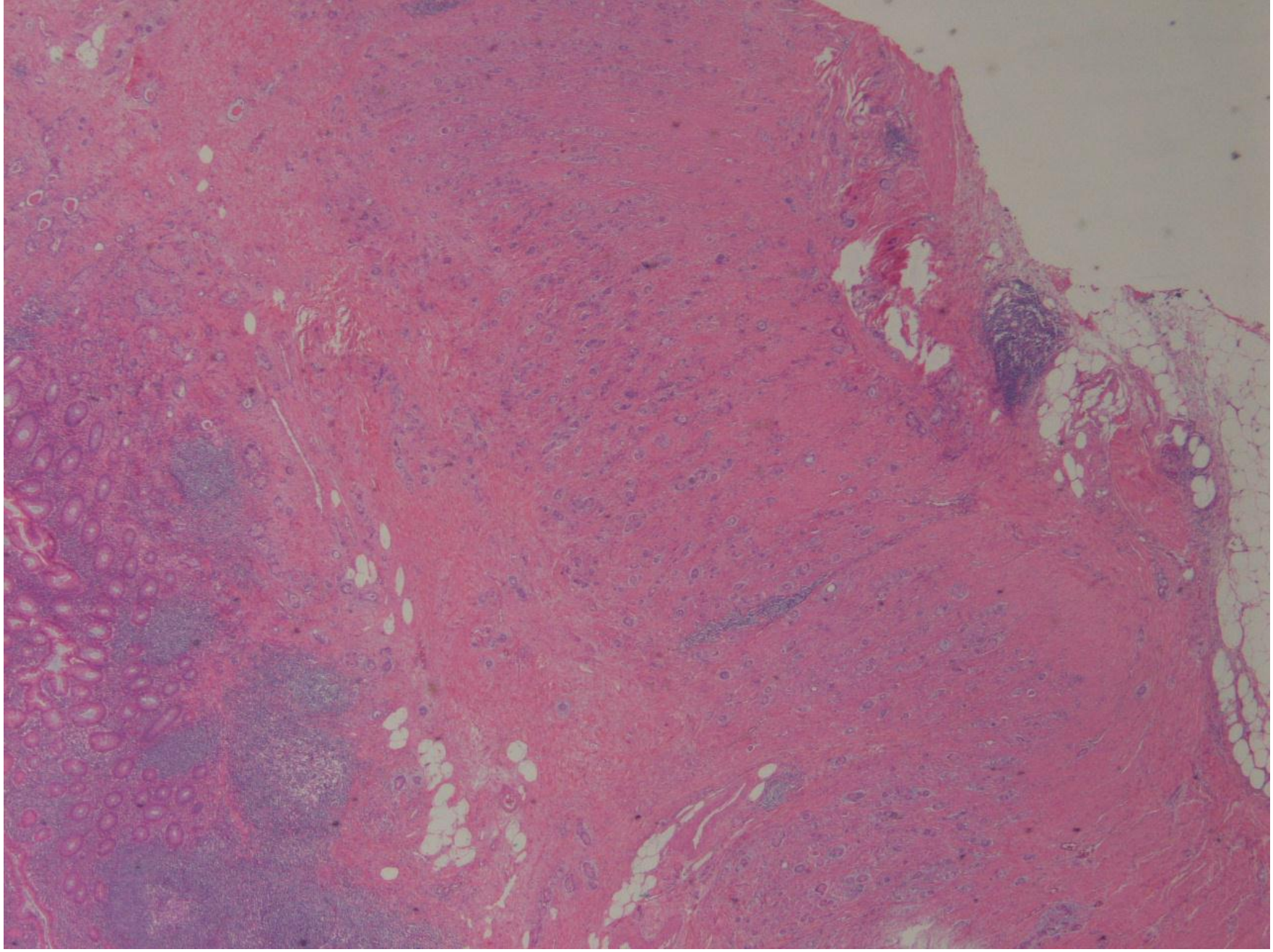
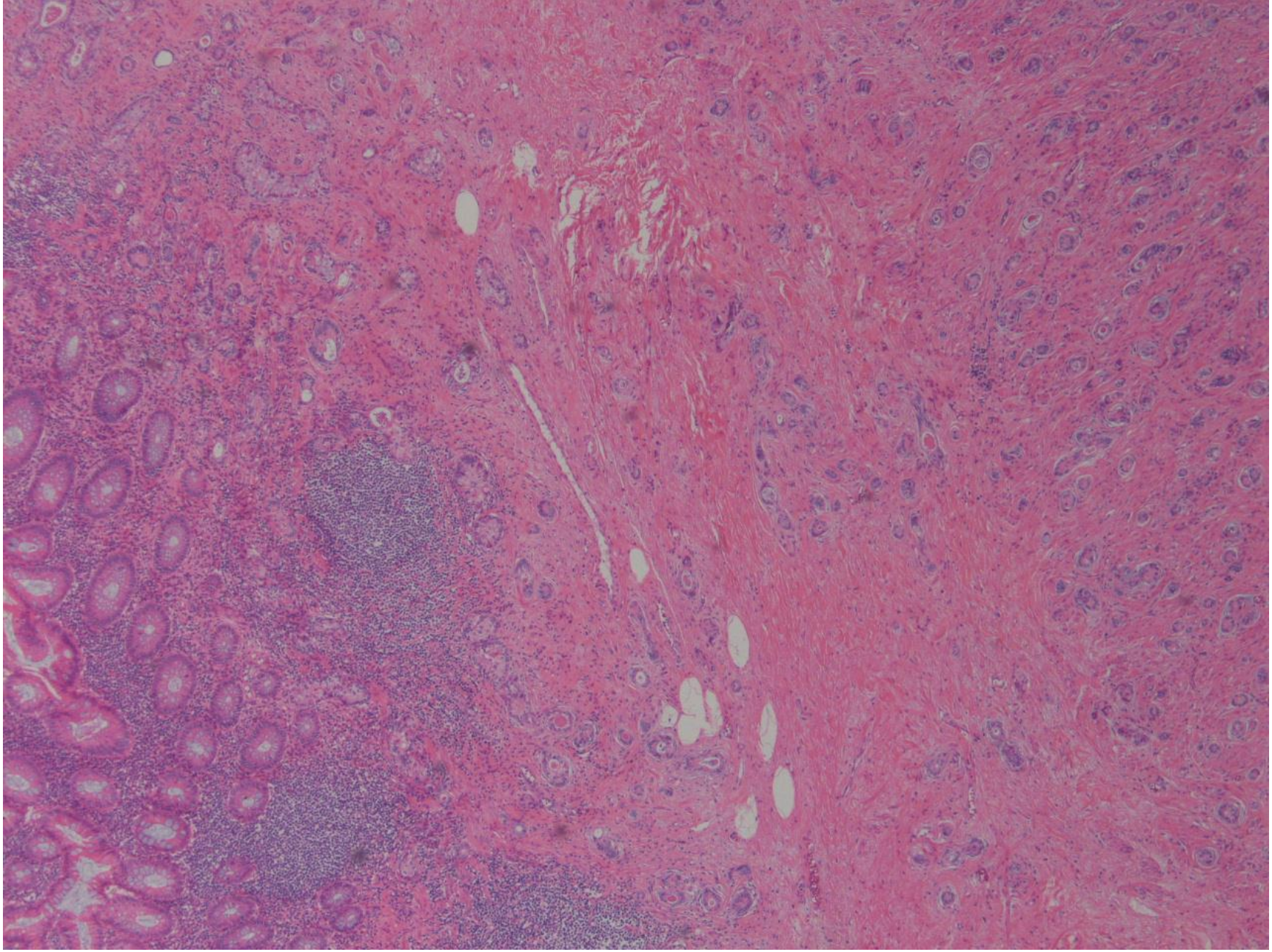
Surgical Pathological Conference

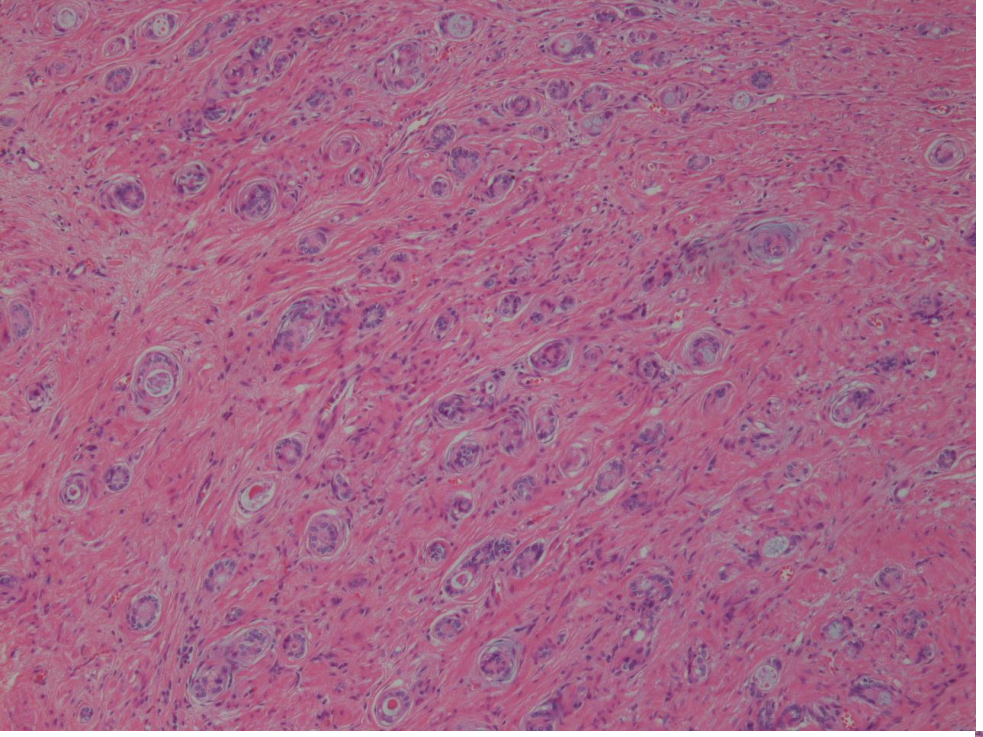
Presented by Dr. W.K. Kwang
Anatomical Pathology
2013-04-27
Path No. 101-12733



101-12733 appendix, 20X

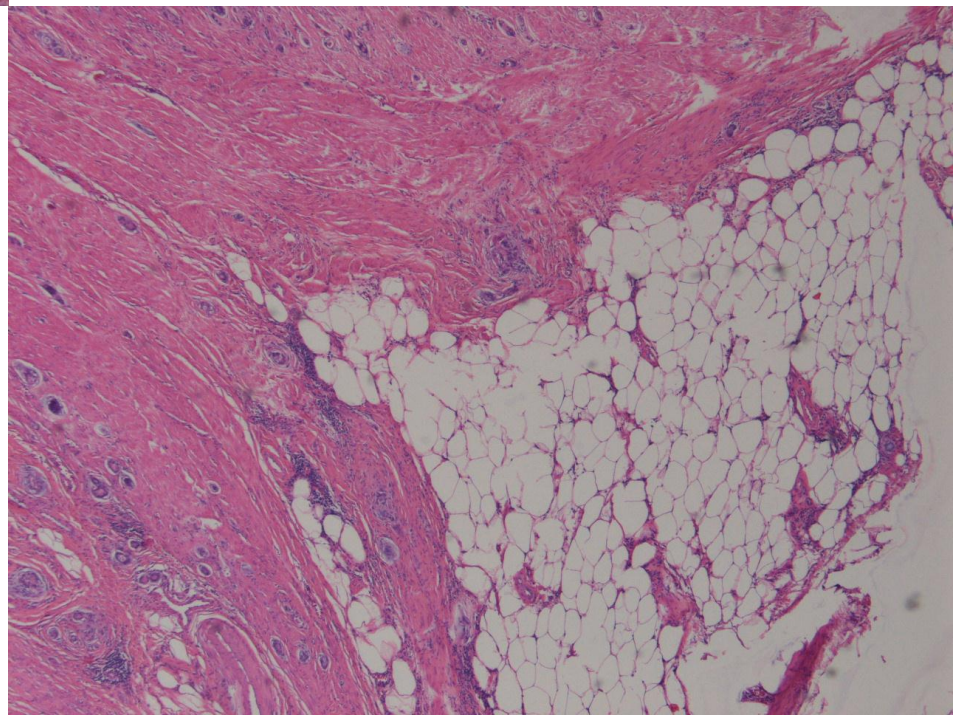


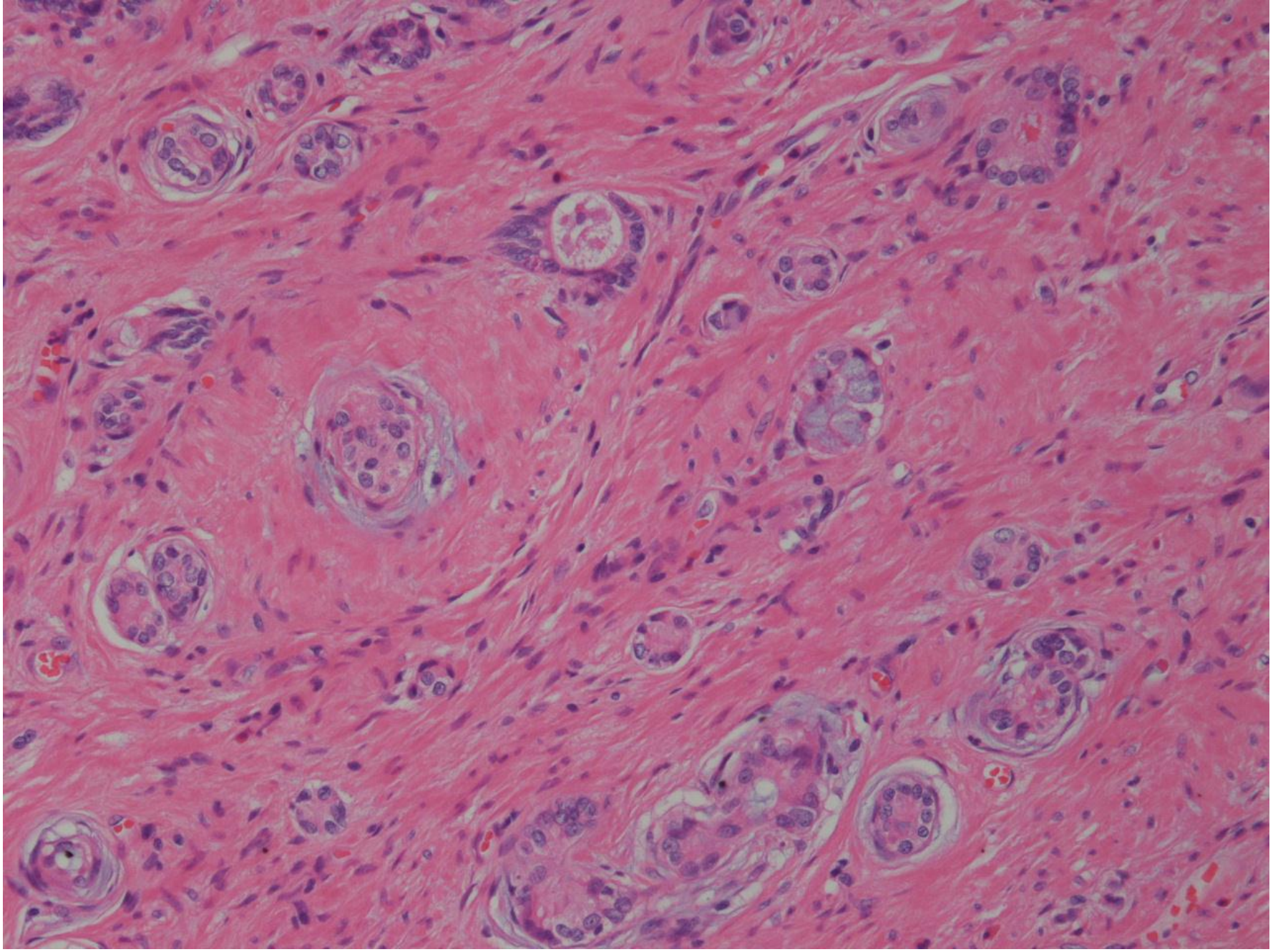
101-12733 appendix, 40X



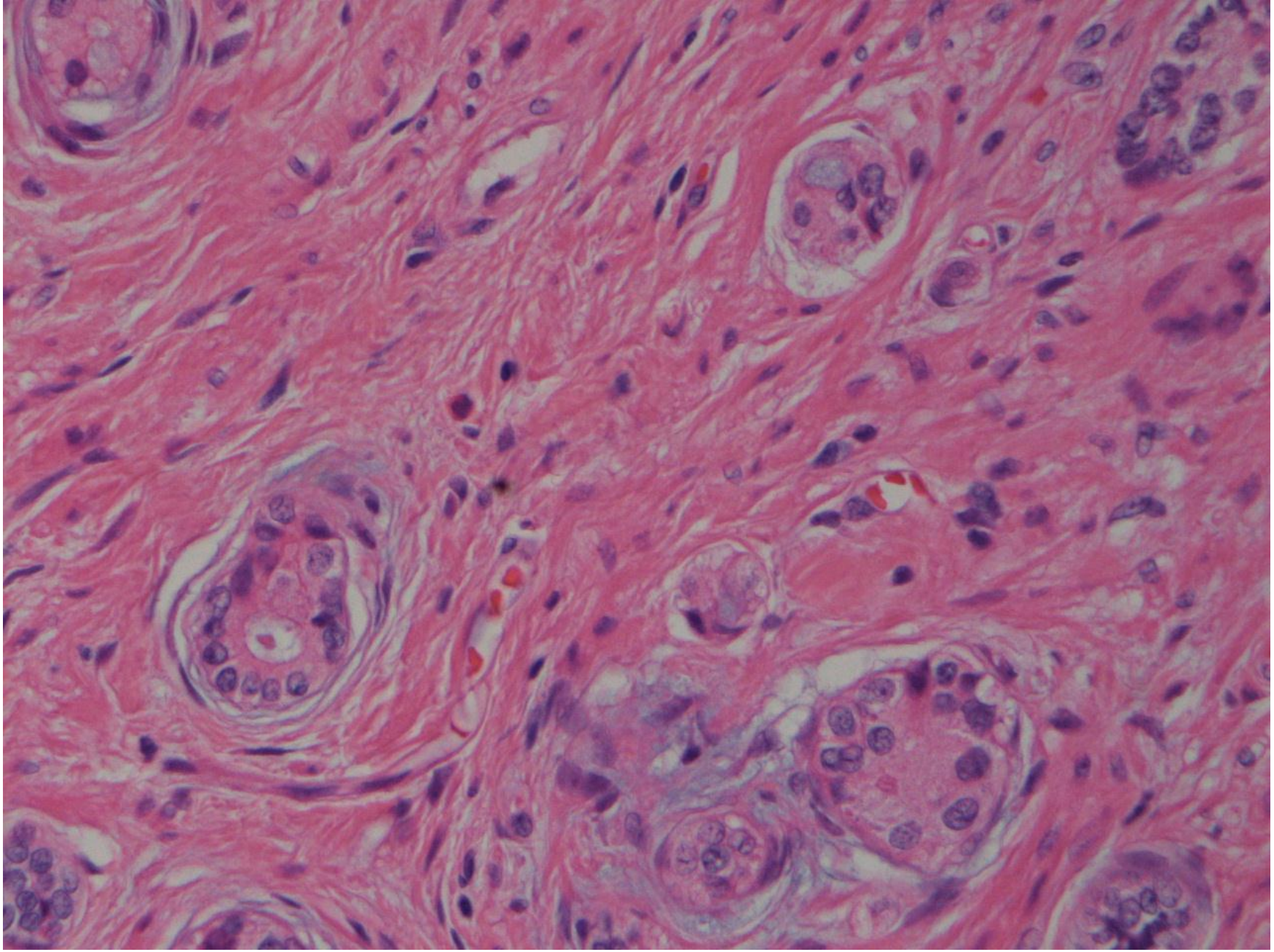
Upper: Appendix, muscularis propria, 100X

Lower: Appendix, subserosa, 100X

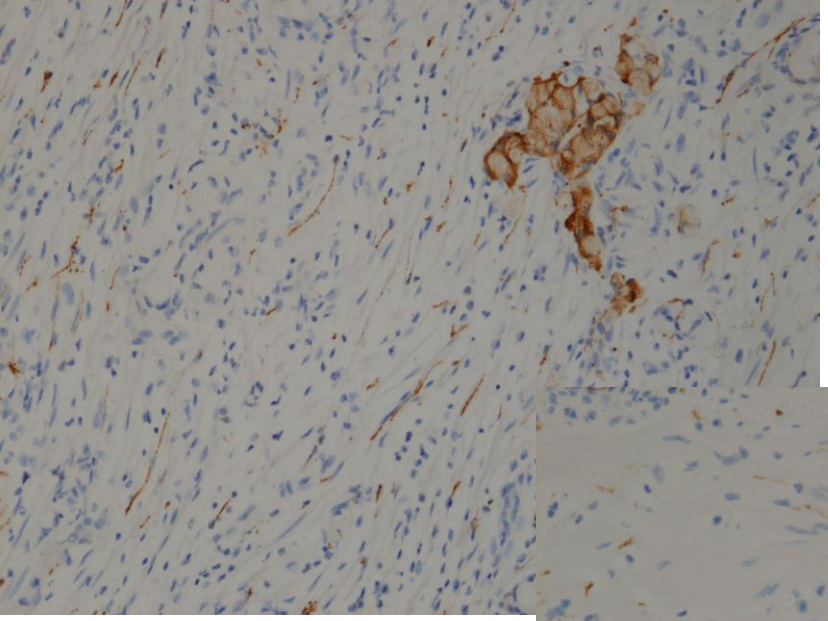




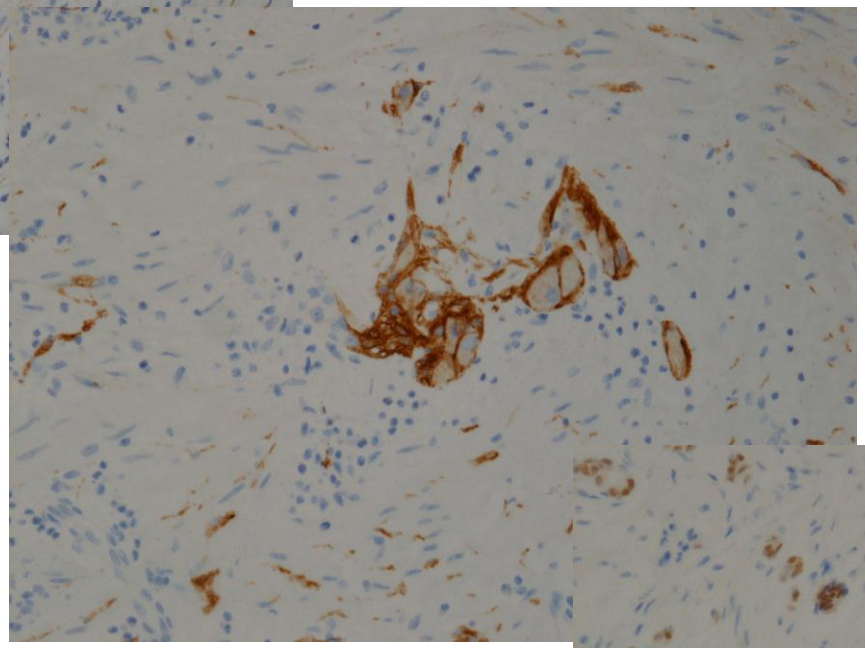
Appendix, 200X



Appendix, 400X

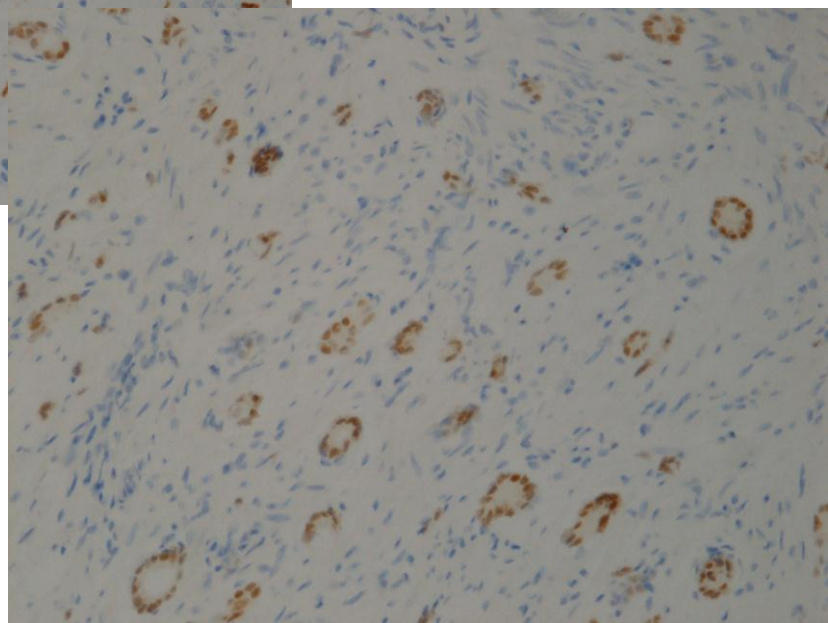


Synaptophysin



CD56

CDX2



Pathological Diagnosis

Goblet Cell Carcinoid

Goblet cell carcinoid (GCC)

- A type of mixed endocrine and exocrine neoplasm
- Synonyms: mucinous carcinoid, crypt cell carcinoma, microglandular carcinoma, adenocarcinoid
- Subbuswamy et al first coined the term “goblet cell carcinoid” in 1974

- Encountered almost exclusively in the appendix, rarely may be found elsewhere in the GI tract
- 5% of all primary appendiceal neoplasm (2005)
- 18-89 y/o (fifth or sixth decades) vs. carcinoid (38 years) and adenocarcinoma (62 years)
- Sex: no difference (*Cancer*, 2002)

Clinical presentation

- Acute appendicitis (most common, >60%)
- Abdominal pain, lower abdominal palpable mass, weight loss

Pathology

Gross:

- Usually appears as ill-defined firm nodular thickening
- Most located in the tip, followed by the base of the appendix
- Circumferential involvement with longitudinal extension is the most common growth pattern

Pathology

Microscopy

- Clusters or rosettes of tumor cells (4-15 cells) having appearance of goblet cell or signet ring-like cell morphology
- Mucosa is typically spared and submucosal growth in concentric manner
- Lakes of mucin

Pathology

Immunohistochemistry

- Chromogranin A and synaptophysin: carcinoid vs. goblet cell carcinoid

Treatment

- Similar to intestinal adenocarcinoma
- Stage I: may be appendectomy alone
- Higher stages: right hemicolectomy is still the recommended surgical option
- Cytoreductive surgery with intraperitoneal chemotherapy (HIPEC): patients with peritoneal carcinomatosis
- Follow up: tumor markers: CEA, CA-125, CA19-9

Prognosis

- Intermediate between carcinoid and adenocarcinoma of appendix
- Spread to the abdominal cavity may lead to peritoneal carcinomatosis, which is the most common of death
- Involvement of the ovaries is particularly common
- Lymph node metastasis: 17-38%

5-year survivals

Stage I: 100%

II: 76%

III: 22%

IV: 14%

(Pham. et al, *Ann Surg Oncol* 2006)

Differential diagnosis

- Carcinoid, including clear cell carcinoid and tubular carcinoid
- Adenocarcinoma: signet ring cell
- Mixed goblet cell carcinoid-adenocarcinoma

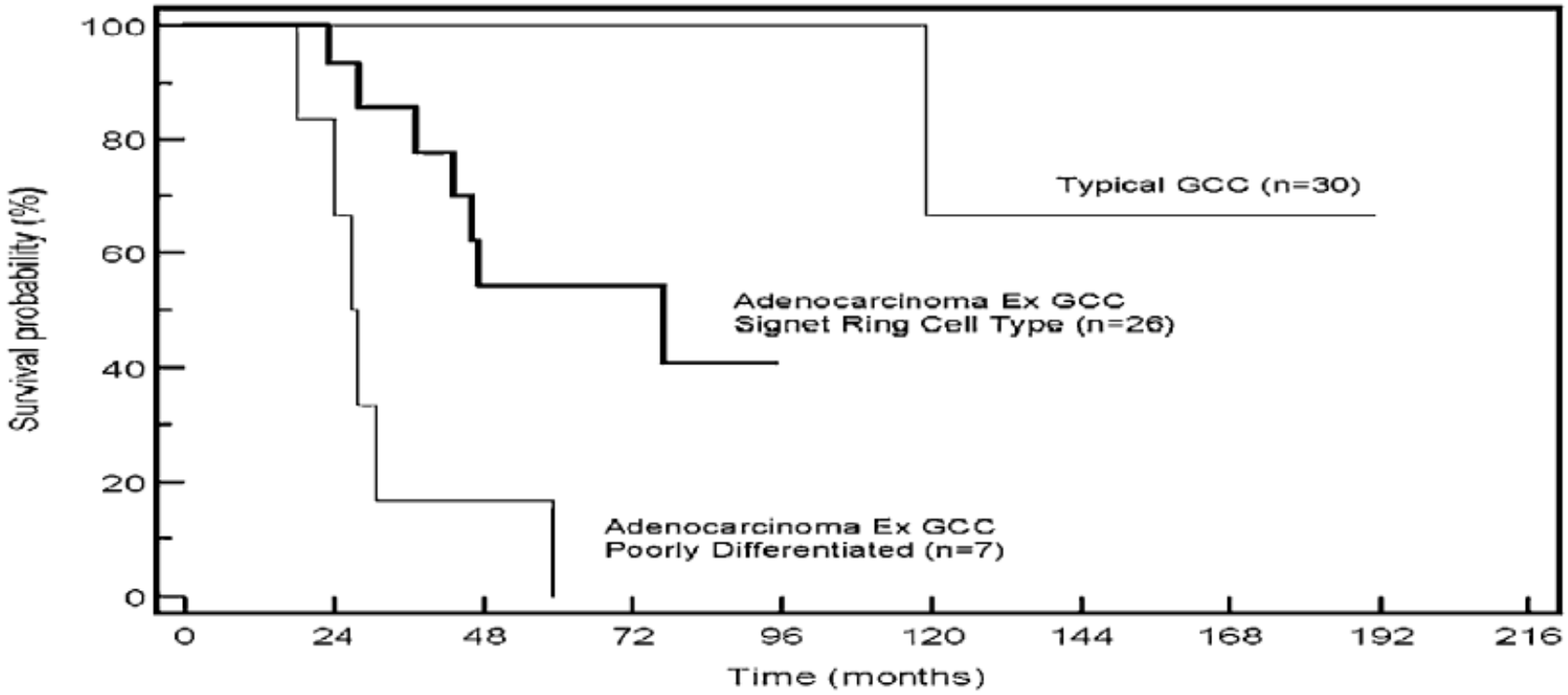


FIGURE 5. Kaplan-Meier curve of survival probabilities for each subgroup of GCCs. GCC indicates goblet cell carcinoid.