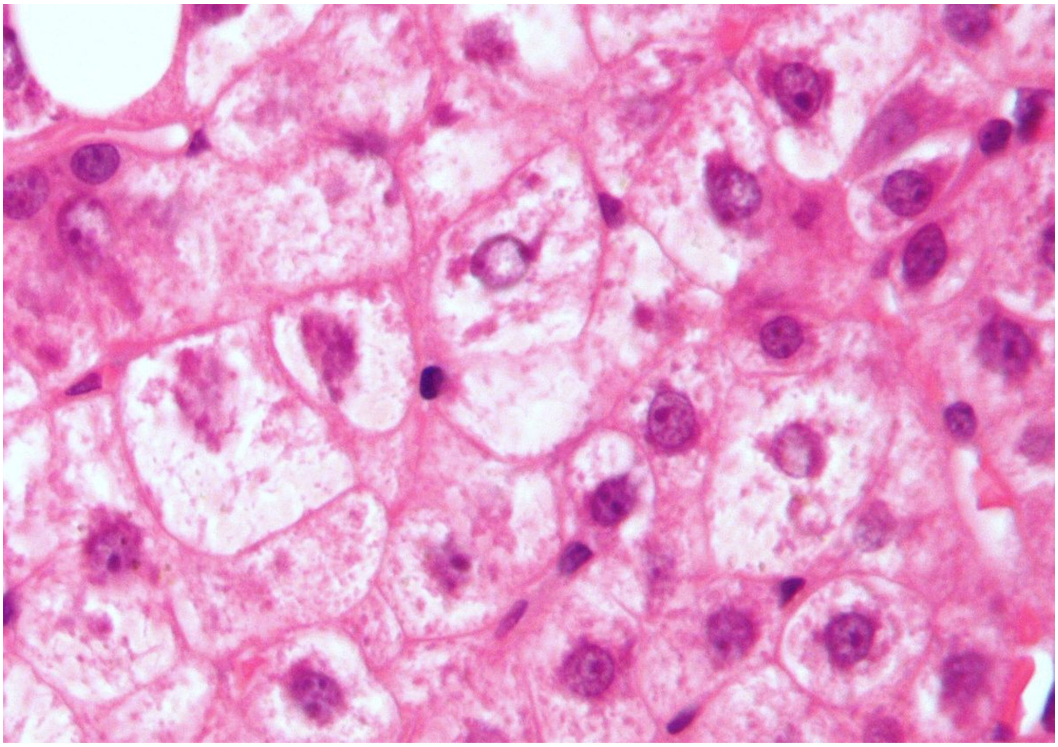
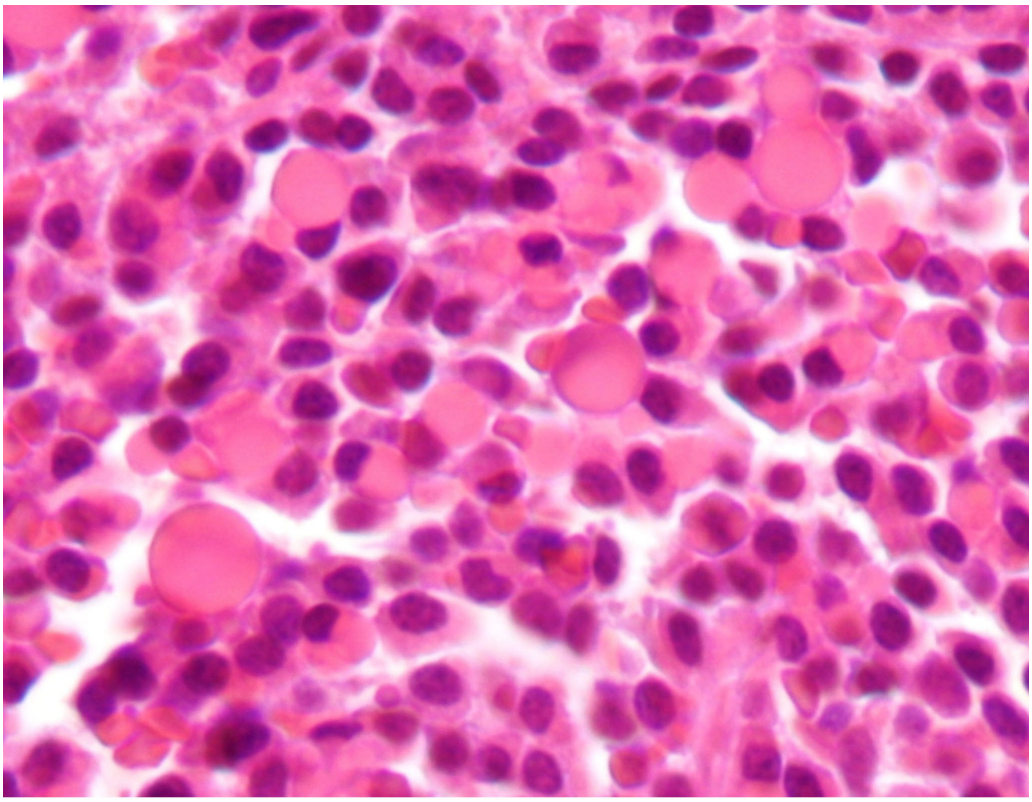
Section 4

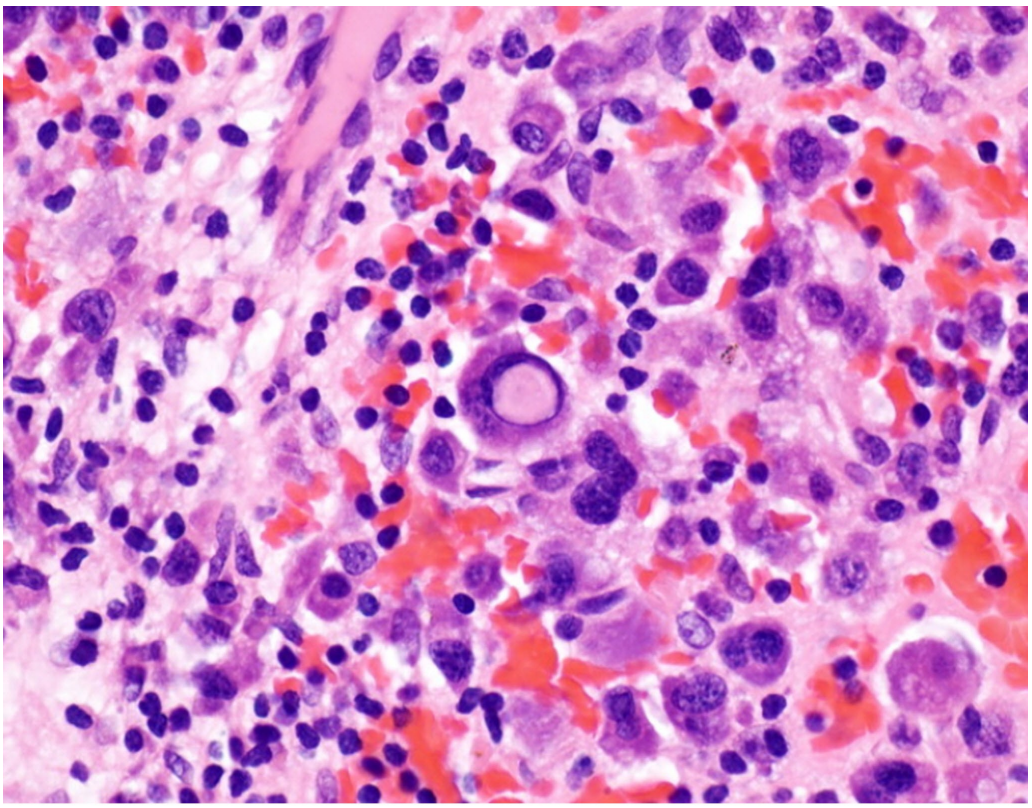
Cell Degeneration and Death



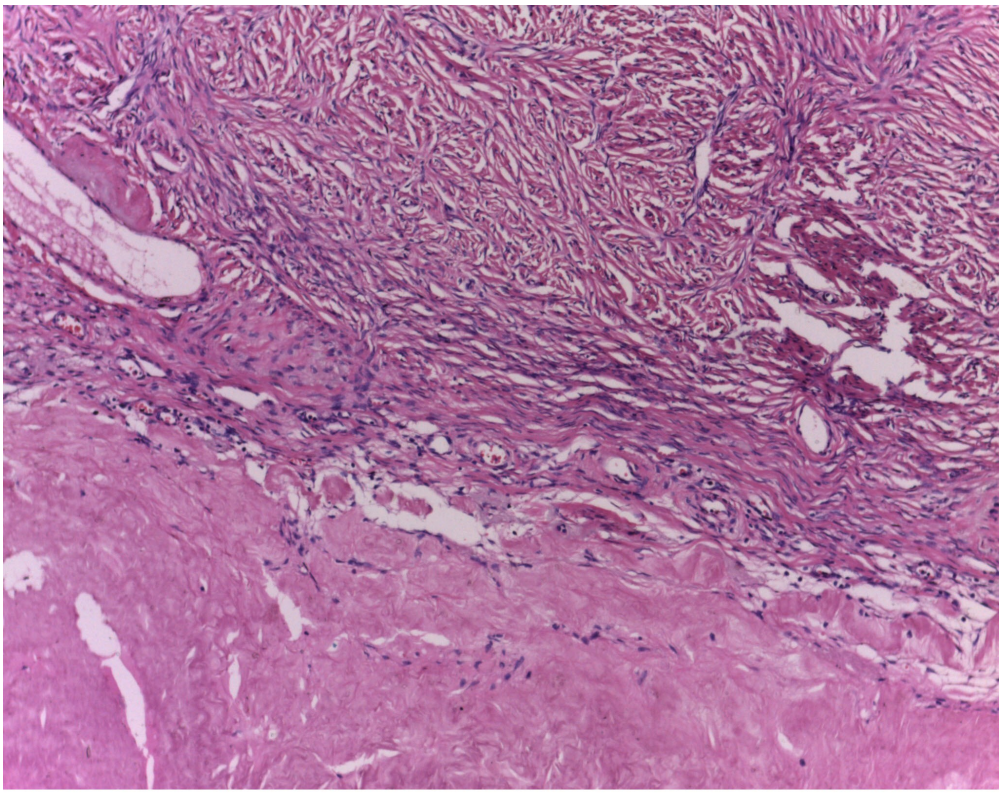
P 7-1. Hydropic degernation (cloudy swelling) of liver.



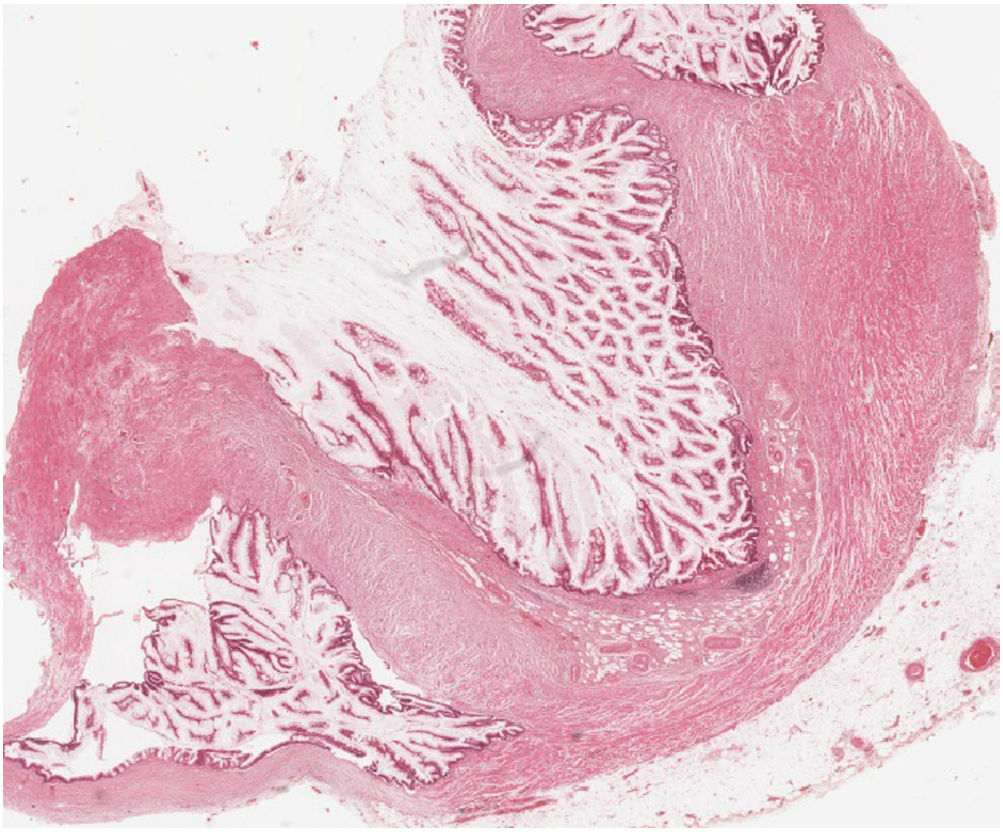
P 7-2. Plasma cell myeloma, Russel bodies. hyaline intracytoplasmic and intranuclear inclusions



P 7-3. Plasma cell myeloma, Dutcher bodies. Intracytoplasmic inclusions that are either invaginated into or are overlying the nucleus.

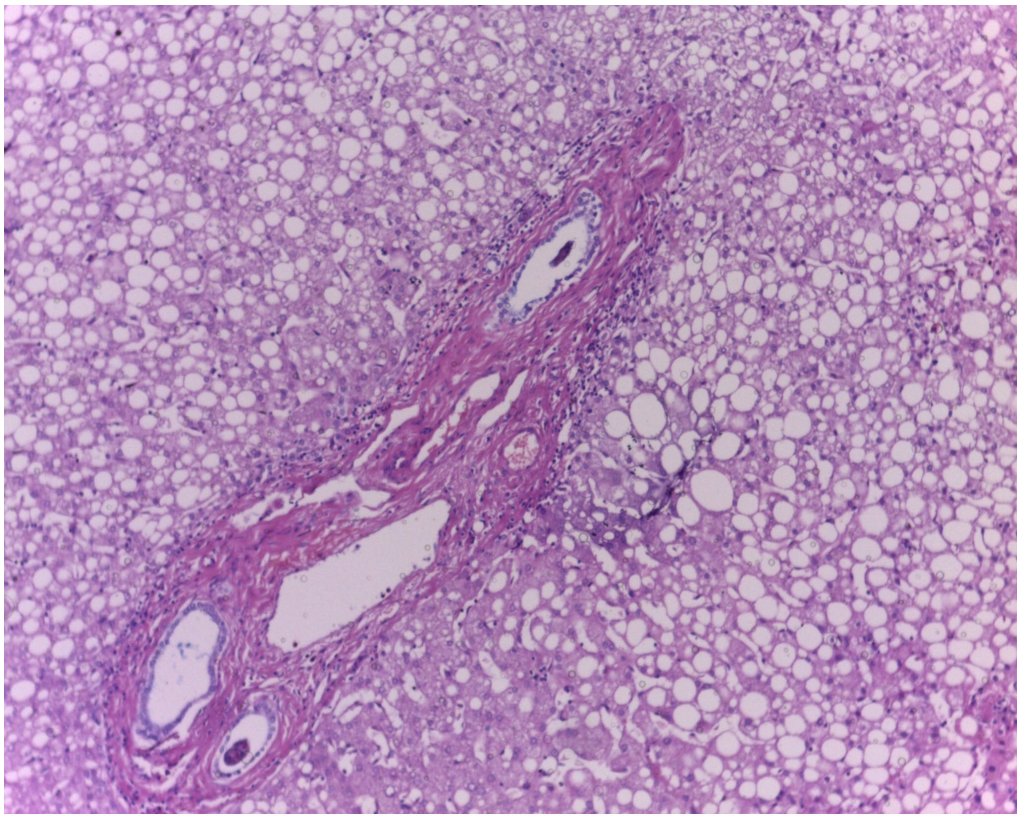


P 7-4. Uterine leiomyoma, hyaline degeneration. Homogeneous acellular esinophilic material (lower field).

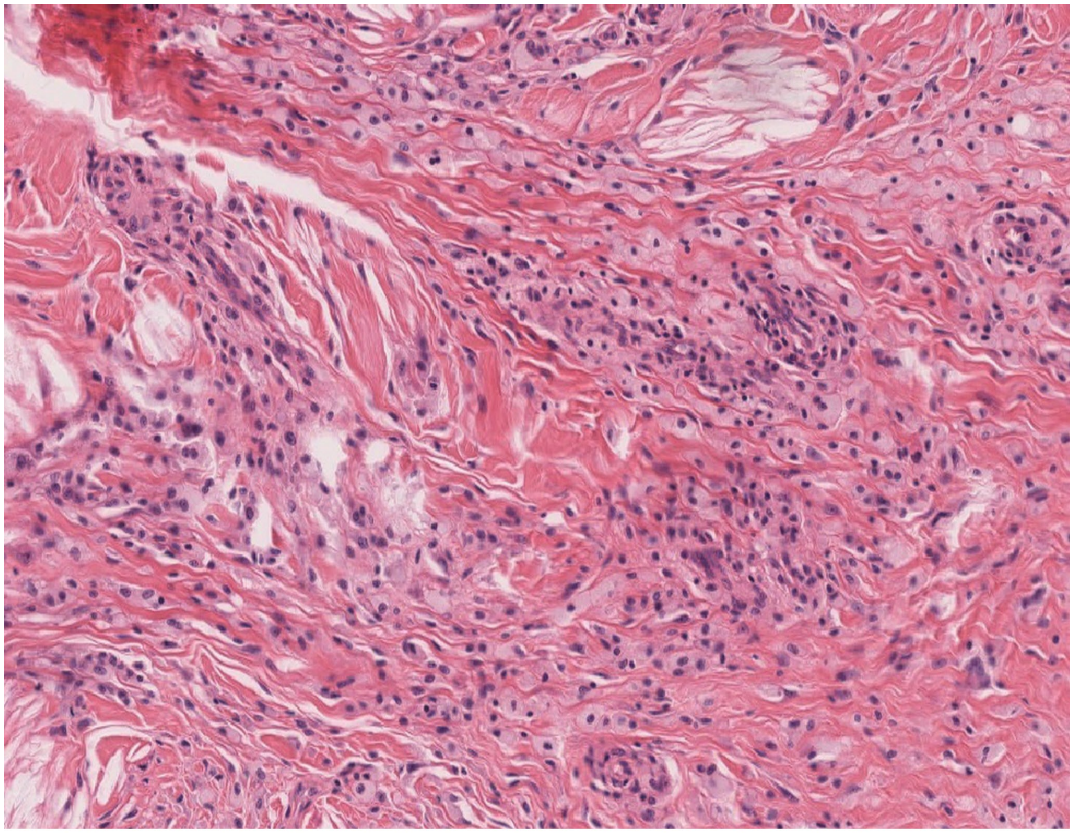


P 7-5. Appendix, mucocele. Dilatated appendiceal lumen by excessive mucinous secretion

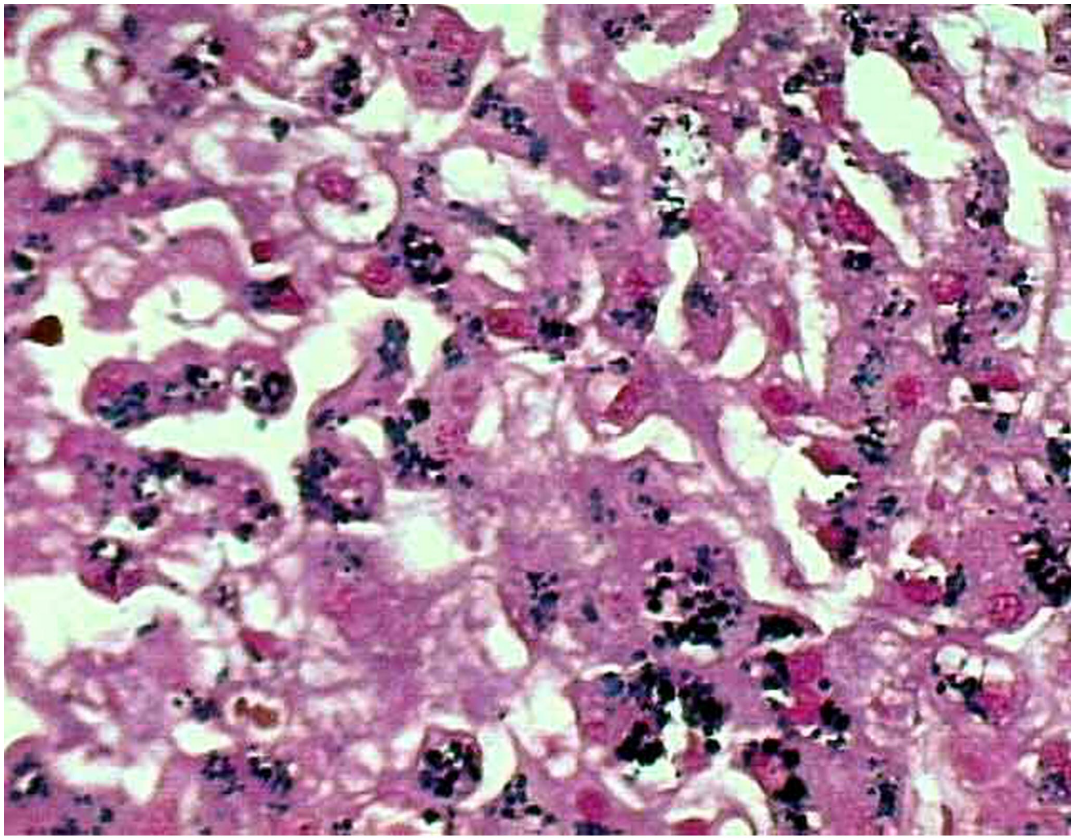
P 7-6. Ganglion cyst. Dermal mucin filled cyst lacking any true epithelial lining.



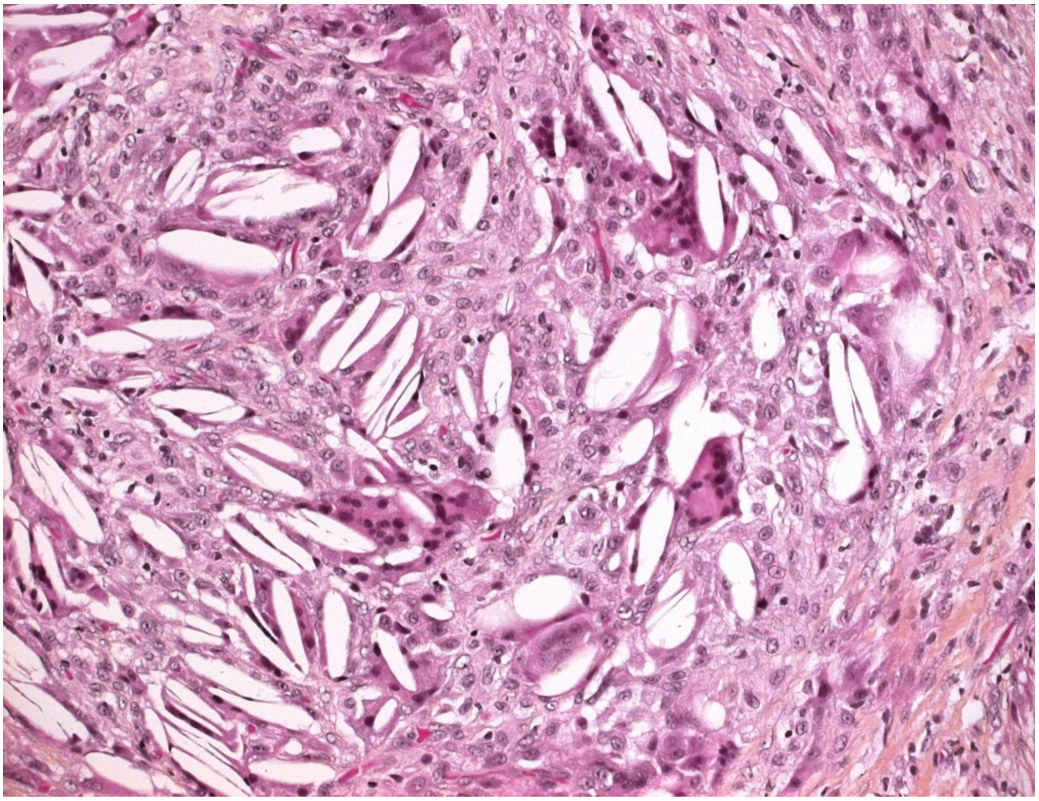
P 7-7. Liver, fatty change. Large droplet of fat droplet displacing the nucleus to the periphery.



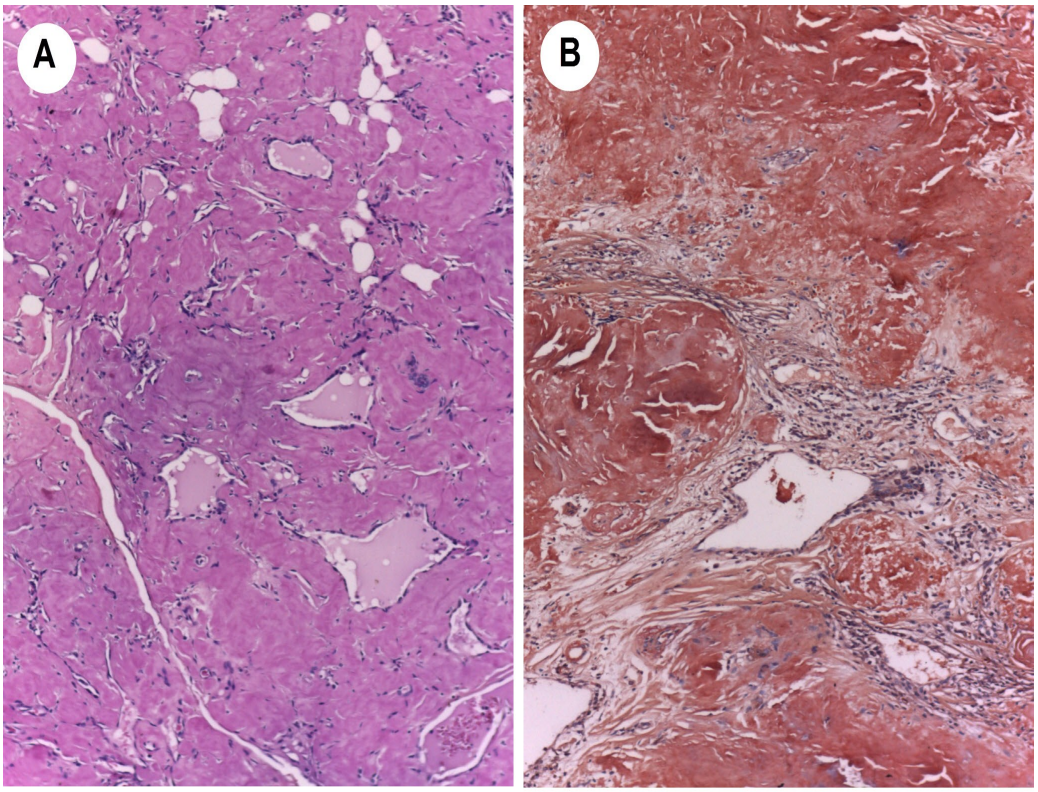
P 7-8. Xanthoma, skin. Dermal collections of histiocytes with cholesterol celfts.



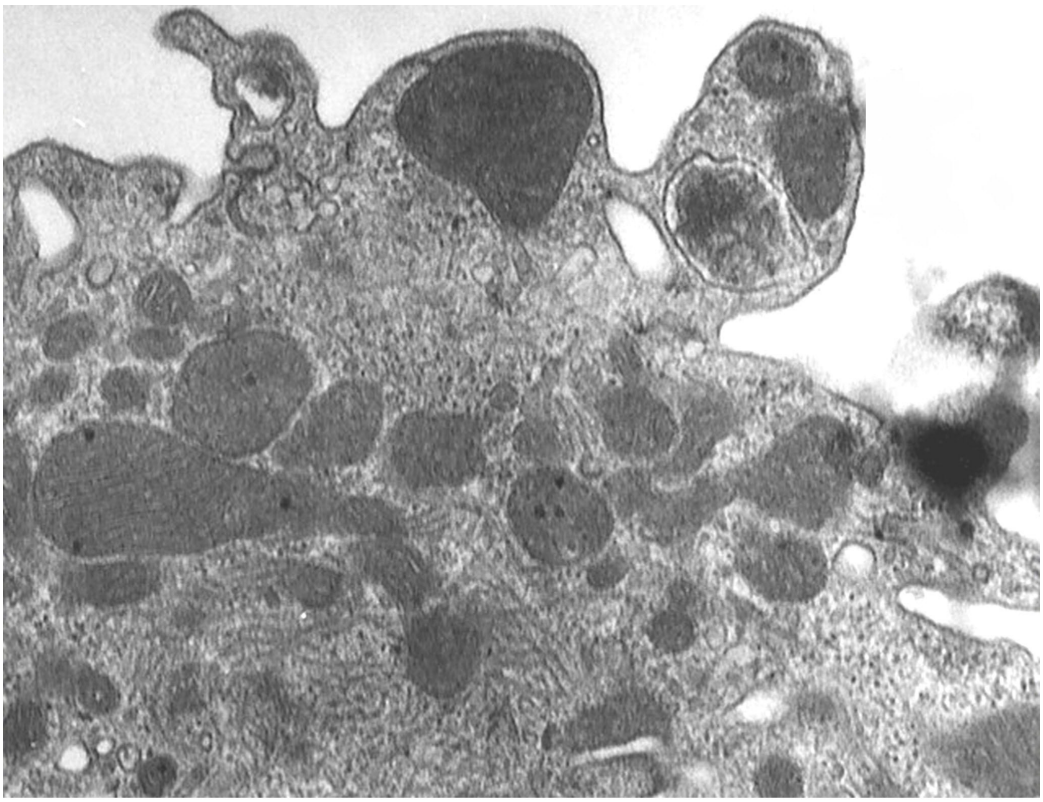
P 7-9. Liver, hemochromatosis. Iron within hepatocytes (Prussian Blue stain), heavy periportal parenchymal iron deposition with sparing of Kupffer cells



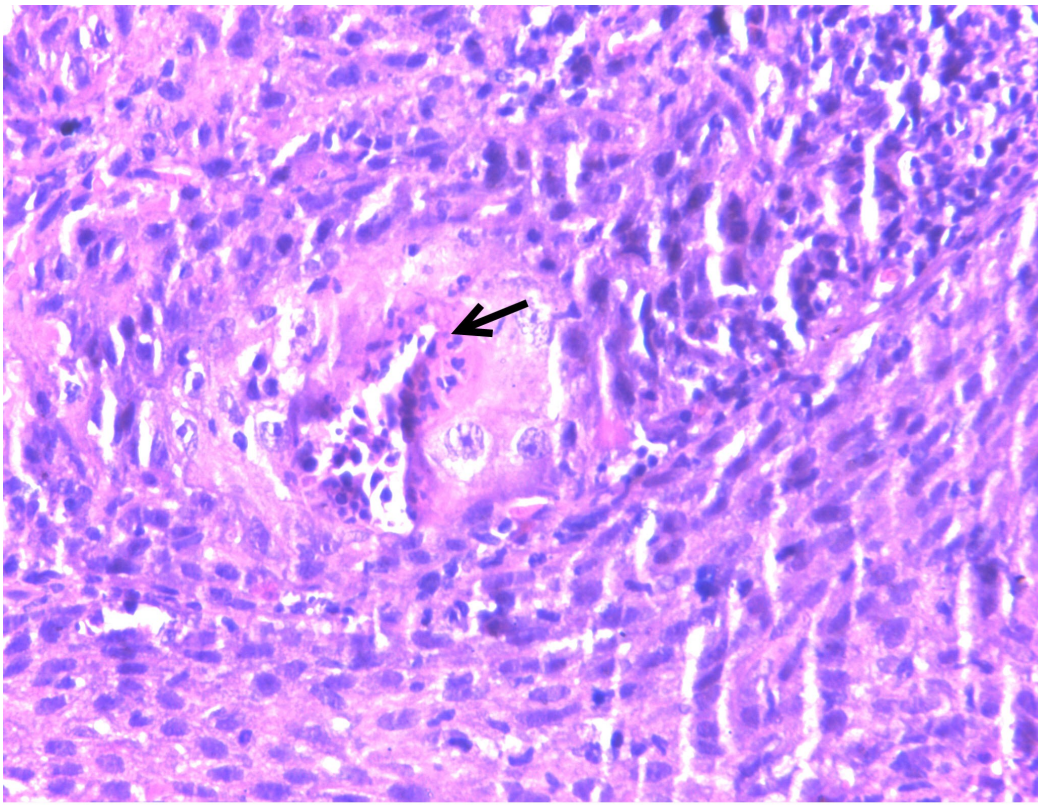
P 7-10. Foreign body giant cells surrounding empty, needle shaped spaces (dissolved cholesterol crystals due to alcohol in staining process),



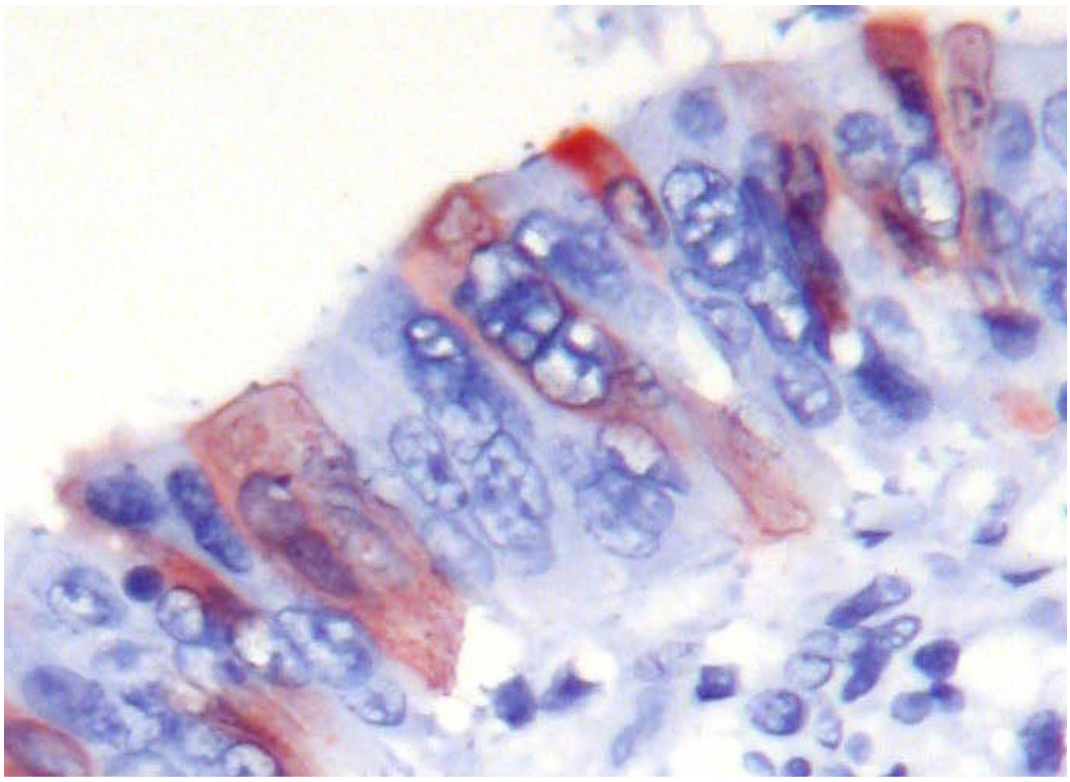
P7-11. Thyroid gland amyloidosis. **A** H&E stain Diffuse deposition of eosinophilic material replacing the thyroid follicles. **B** Congo red stain, salmon color of the depositied material.



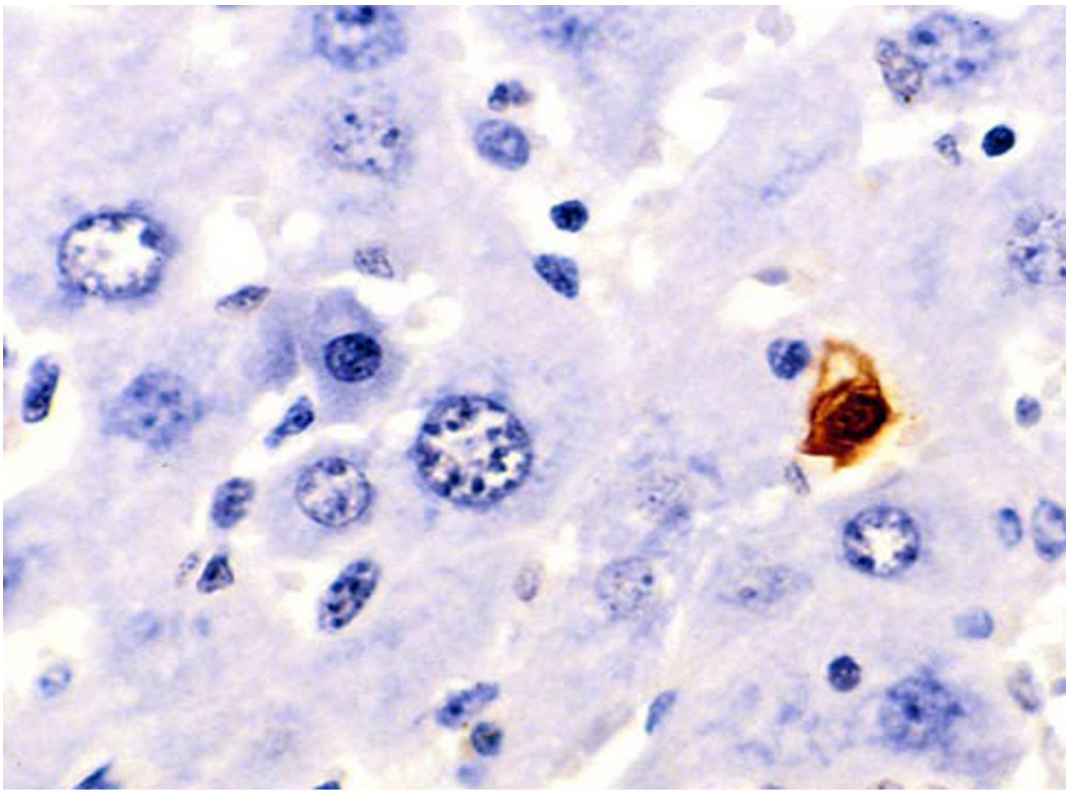
P 7-12. Apoptosis, EM picture. Surface blebs are expelled as membrane-bound vesicles containgn the apoptotic structures.



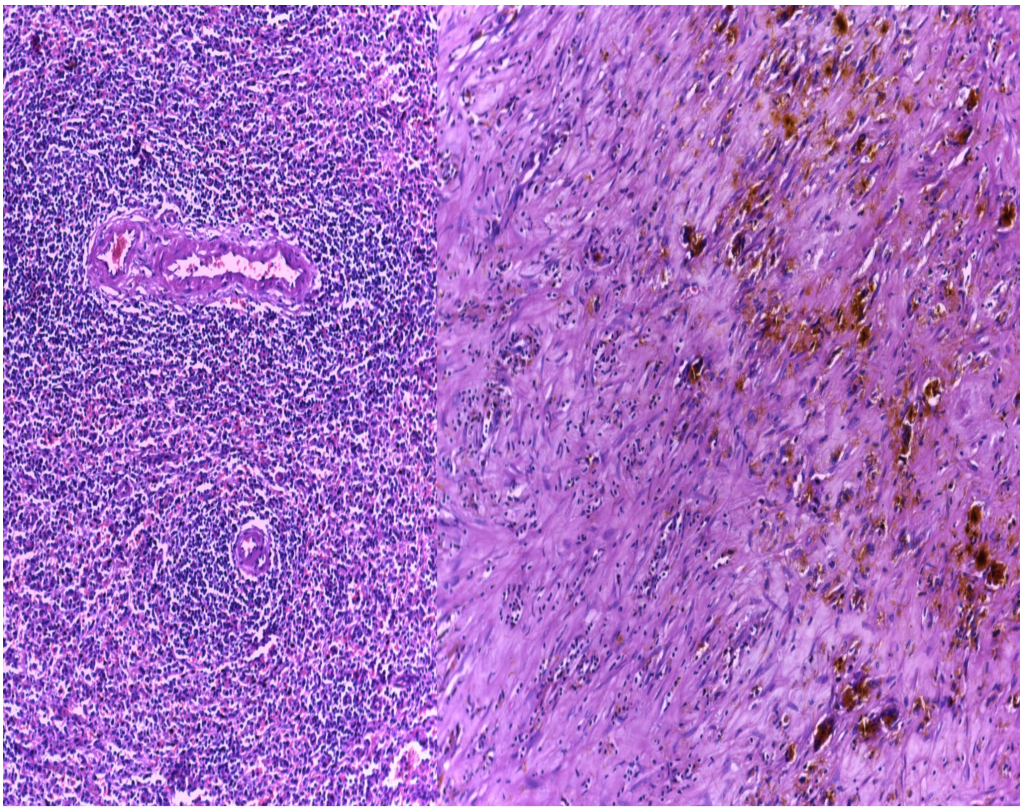
P 7-13. Apoptosis, H & E stain. A case of squamous cell carcinomashowing apoptosis of the cells at the cell nest center (arrow).



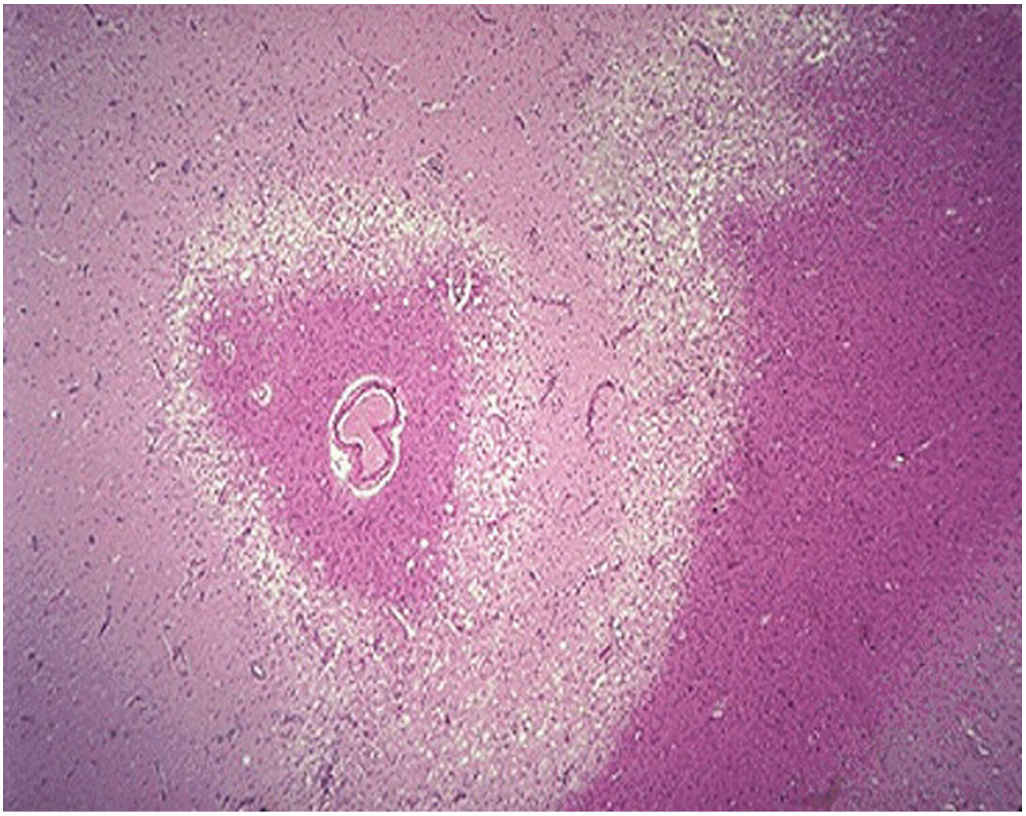
P 7-14. Apoptosis detection by C-CK18 immunostain. A case of colonic adenocarcinoma. CK18 is cleaved by capases, liberating a neo-epitope that detects only apoptotic but not viable or necrotic cells.



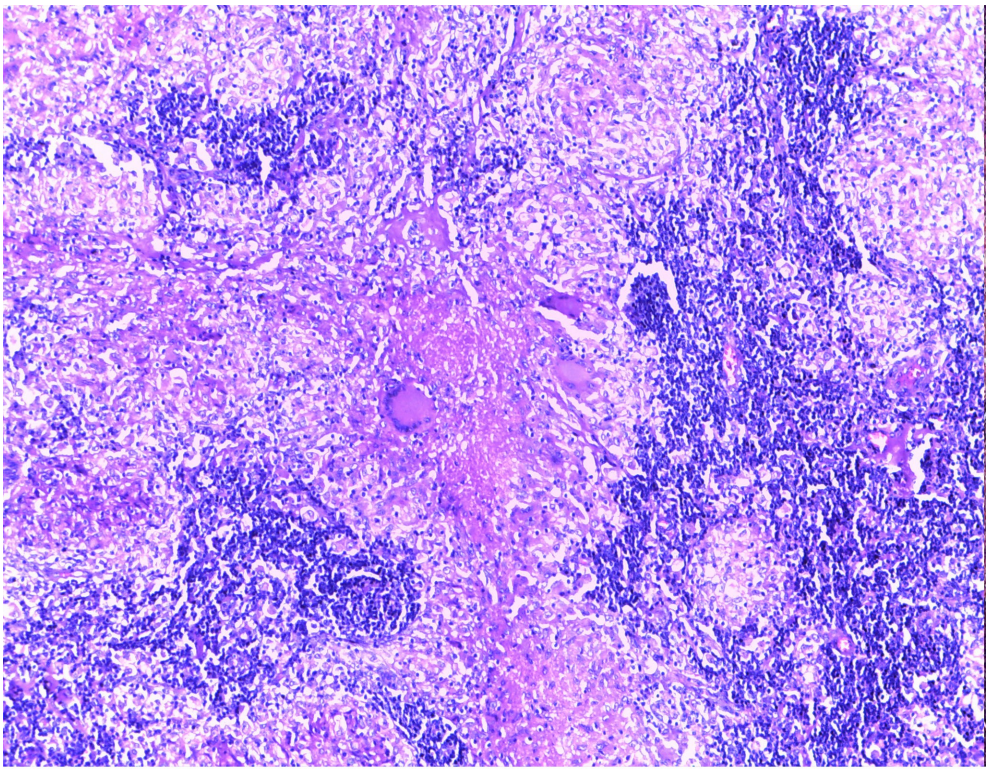
P 7-15. Apoptosis, TUNEL assay. It is a method for detecting apoptotic DNA in individual cells. The assay relies on TDT enzyme to catalyzes deoxynucleotides, tagged with chromogen.



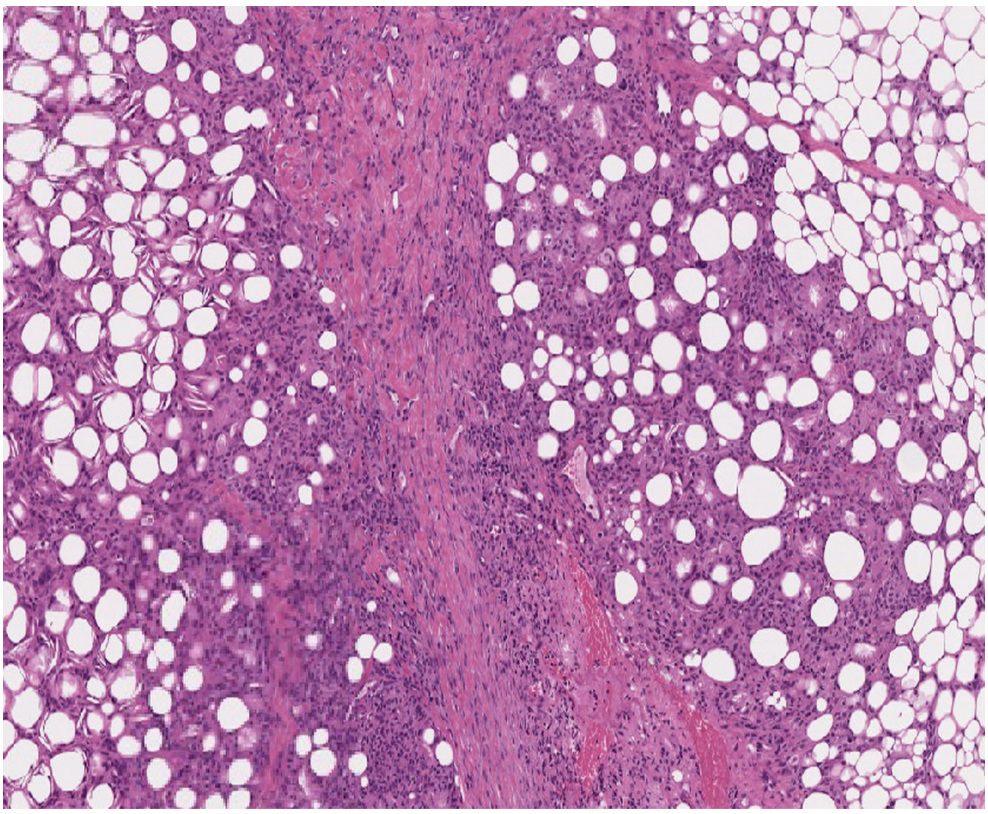
P 7-16. Spleen, infarction. Coagulation necrosis (Right field).



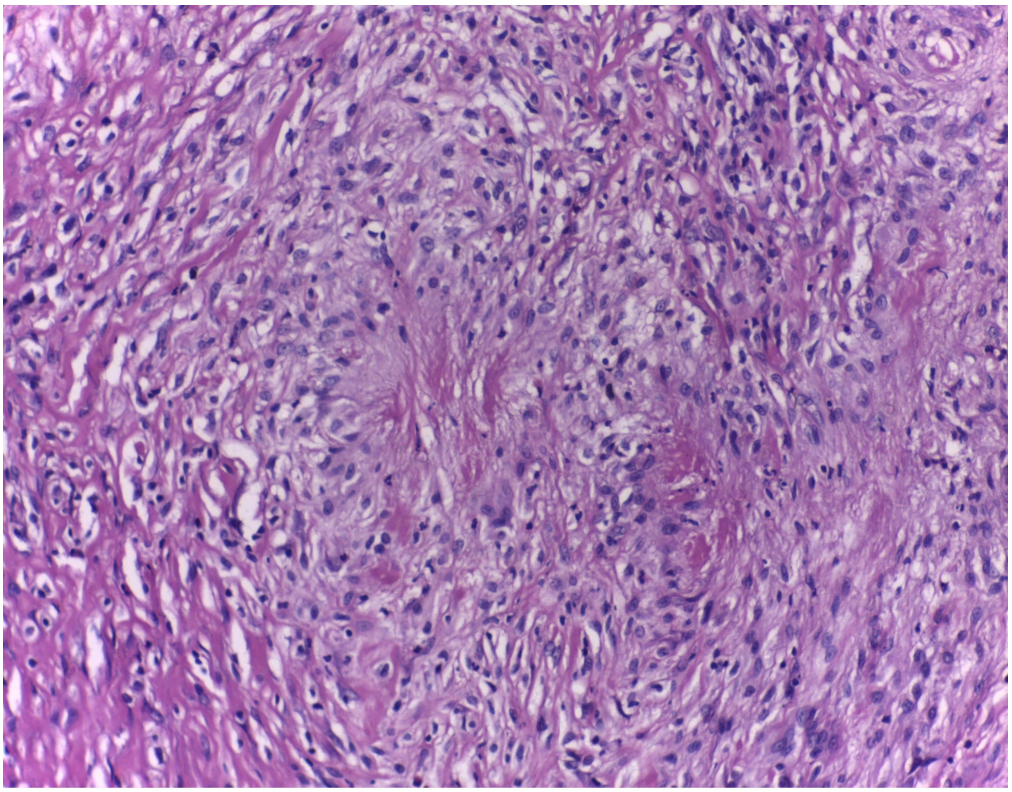
P 7-17. Brain infarction, liquifaction necrosis.



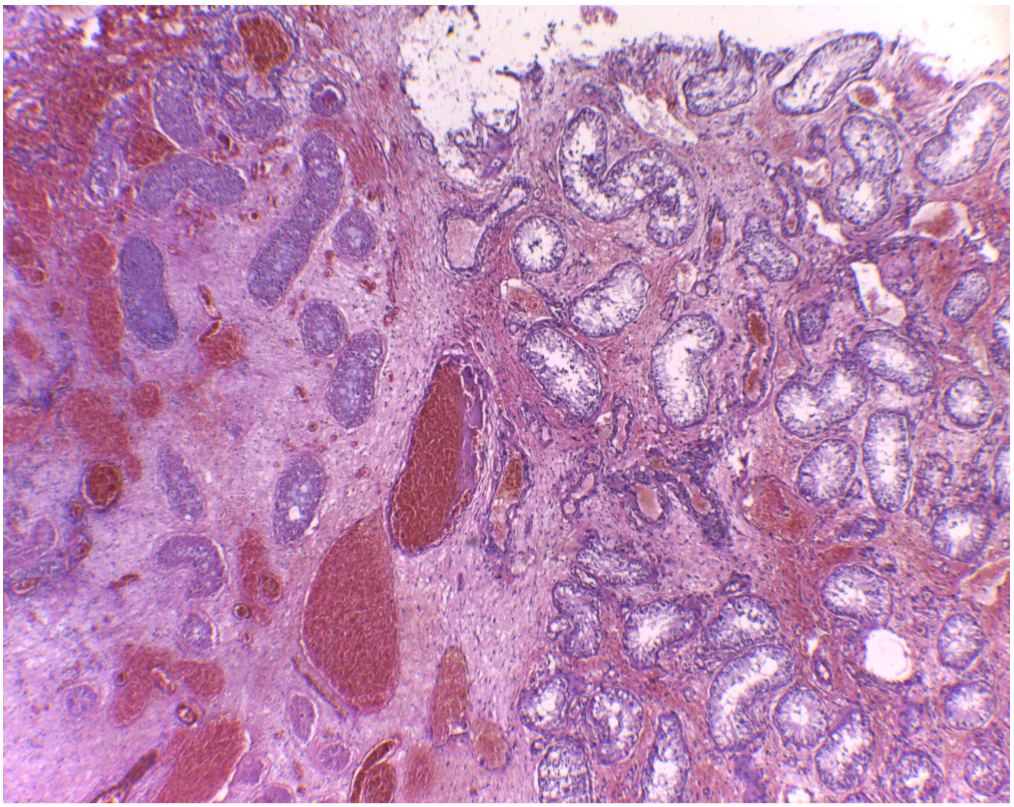
P 7-18. Lymph node, caseous granuloma. Prominent central necrosis (reddish, granular and structureless) surrounded by palisaded epithelioid histiocytes and Langhans giant cells with multiple nuclei in a horse-shoe arrangement. Tubercles at right side represent early lesions.



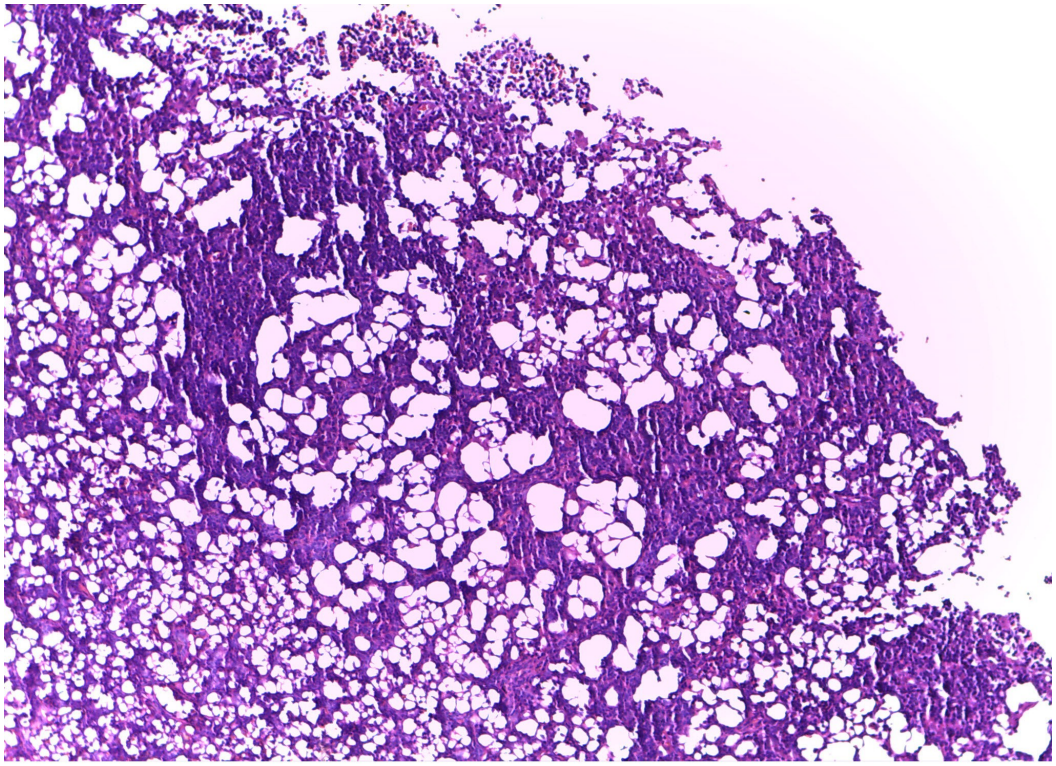
P 7-19. Fat necrosis. Partially necrotic adipose tissue with macrophages and chronic inflammatory cells.



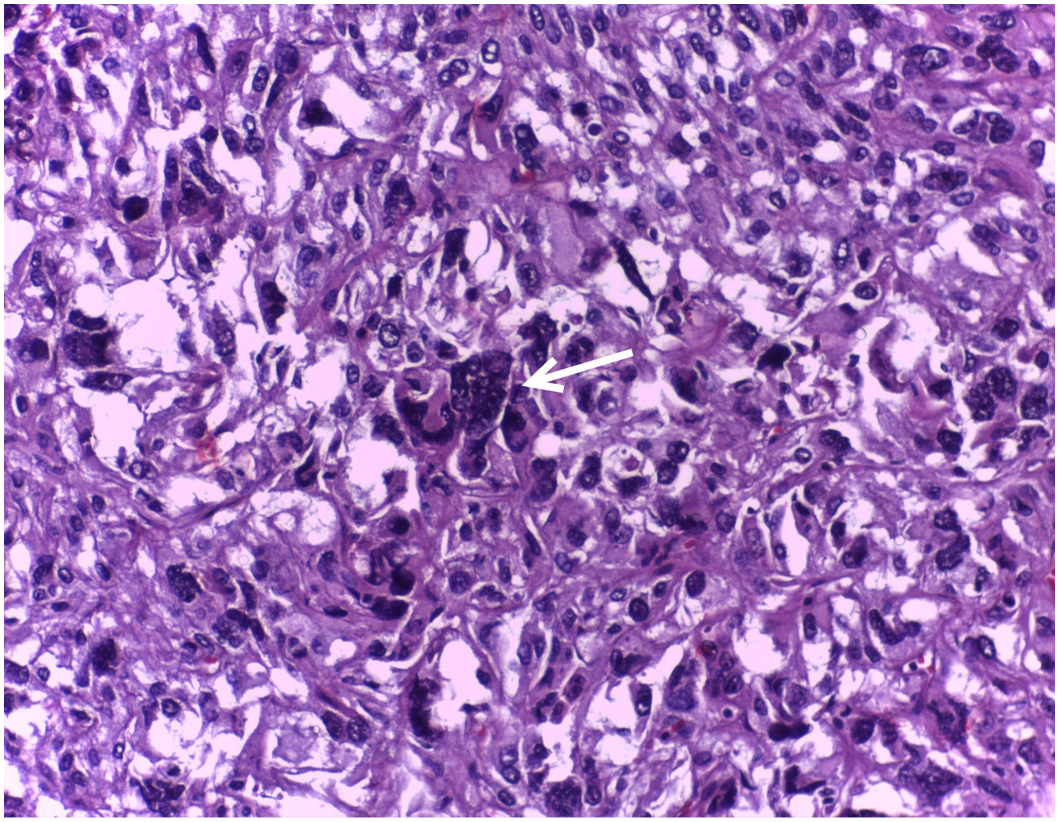
P 7-20. Fibrinoid necrosis. Central amorphus esinophilic fibrillary material surrounded by palisading epithelioid histiocytes.



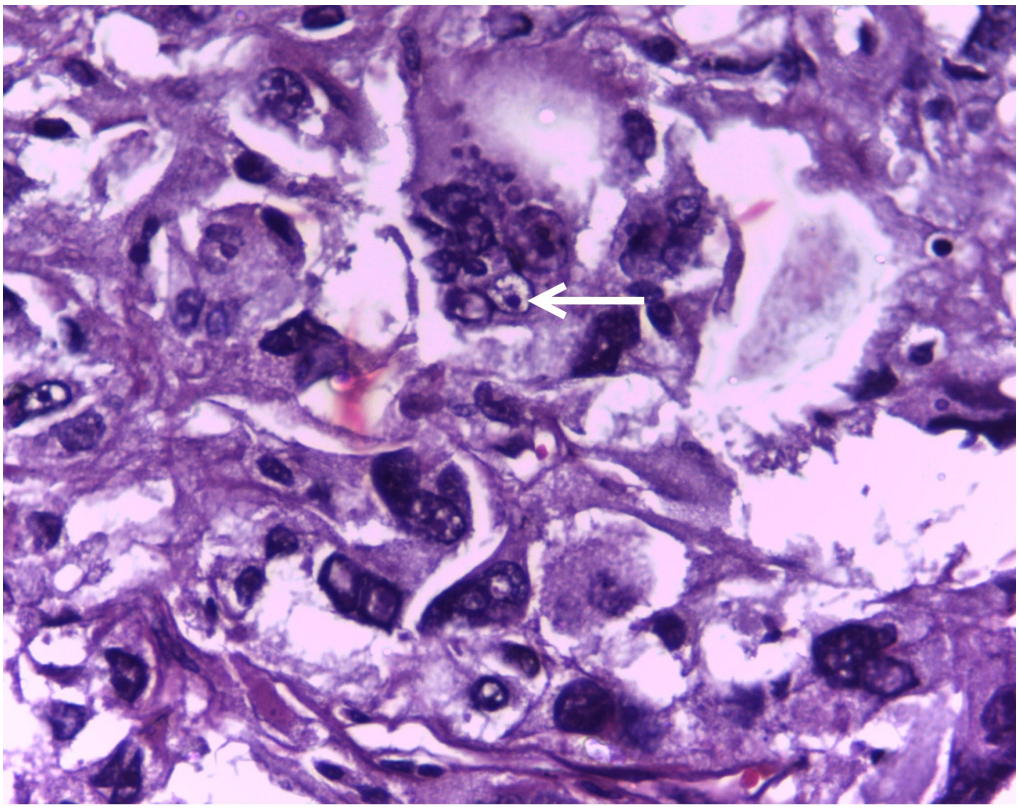
P 7-21. Testicular torsion, hemorrhagic necrosis. Note the extensive hemorrhage in the stroma (Left field) compared to the normal tissue (Right field).



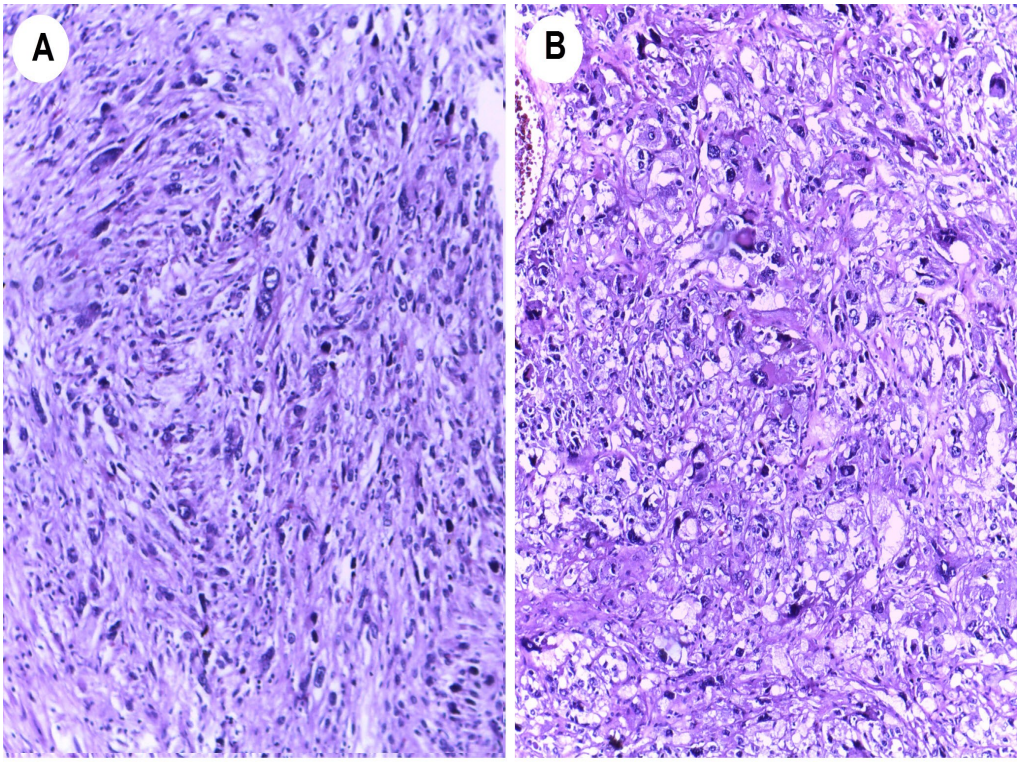
P 7-22 Lymph node,biopsy. Autolysis due to use of inappropiate fixative, showing loss of tissue details with neumerous gas vacules.



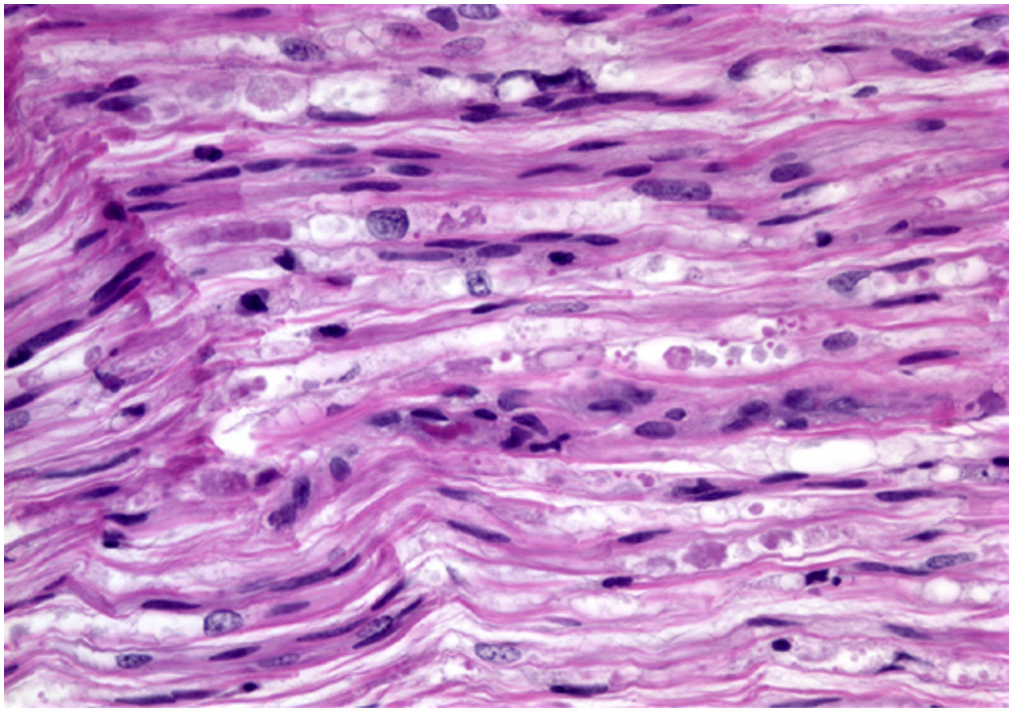
P 7-23. Mitotic catastrophe. Note the multinucleated giant cells (white arrow).



P 7-24. Mitotic catastrophe. Note the multinucleated giant cells with the micro-nucleoli.



P 7-25. Symplastic leiomyoma. **A** and **B** Among spindle cells, there are ones with pleomorphic hyperchromatic nuclei but with complete lack of mitotic activity. This change is due to disorder of cell cycle check point with synthesis of large amounts of DNA (aneuploidy).



P 7-26. Nerve, Wallarian degeneration. Fragmentation and loss of myelin and axons.