Mitotic count (Core)

The presence of mitoses is uncommon in benign parathyroid disorders and should raise concern for a parathyroid malignancy. However, absolute mitotic count does not definitively separate adenomas from carcinomas. The literature commonly refers to mitotic rates per 50 or 10 high power fields (HPFs) without always defining the diameter of the HPFs. For this reporting protocol mitotic count should be evaluated as number of mitoses per 2 mm^2. It is recommended that reporting pathologists know their field diameter when calculating mitotic rates. The estimate of 10 HPFs equating to 2 mm^2 is commonly used as this reflects many microscopes in widespread use. The area of the tumour with the highest mitotic activity, i.e., 'hot-spot', should be preferentially counted if identified. Limited studies to date have evaluated the prognostic significance of this histologic factor.[1-3] The use of supplemental techniques such as PHH3 for identifying mitosis is not established in parathyroid neoplasms. The finding of abnormal mitoses may be remarked upon in the pathology report.

References

1 Talat N and Schulte KM (2010). Clinical presentation, staging and long-term evolution of parathyroid cancer. *Ann Surg Oncol* 17(8):2156-2174.

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3 Bondeson L, Sandelin K and Grimelius L (1993). Histopathological variables and DNA cytometry in parathyroid carcinoma. *Am J Surg Pathol* 17(8):820-829.