

Monckeberg's Sclerosis of thyroid vessels: an unusual presentation

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Mönckeberg sclerosis (MS) is a calcification of the medial layer of arteries that is most often found in the muscular arteries of the extremities and occasionally those of the viscera. Calcium deposits form in the middle layer of the walls of medium-sized vessels sparing the intima and these vessels become calcified independently of atherosclerosis. It is more common in people over 50 years of age and is commonly found in the peripheral arteries causing "pipestem" arteries. It is usually associated with end stage renal disease and diabetes.

We report 3 cases of monckeberg's sclerosis of thyroid artery in young females in total thyroidectomy specimens during a period of one year at Sikkim Manipal Institute of Medical Sciences, Gangtok.

Case 1

31 year old lady presented with complain of anterior neck swelling for 2 years. There were no compressive symptoms or any features suggestive of hypothyroidism or hyperthyroidism.

On examination right thyroid lobe was enlarged with a nodule measuring 4x3cm and left lobe enlarged with nodule measuring 3.5x3cm. TSH was within normal limits. USG Thyroid showed b/l well defined nodules s/o multinodular goiter. Fine needle aspiration cytology from right lobe nodule was s/o follicular neoplasm.

Patient underwent total thyroidectomy and biopsy was s/o Multinodular goitre with monckeberg's sclerosis. (FIG 1 and 2)

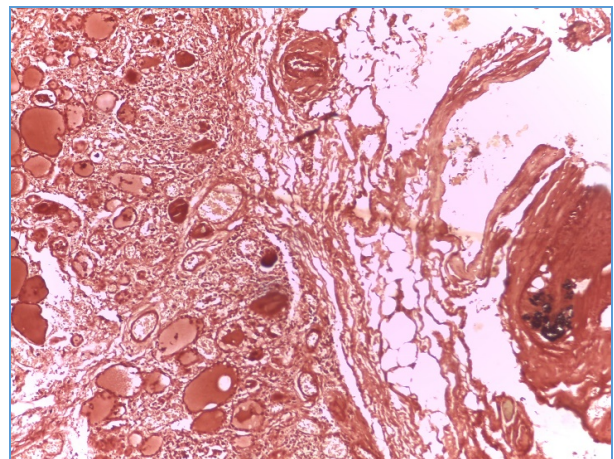


Figure 1 Monckebergs sclerosis (multinodular goiter)
VonKossa stain

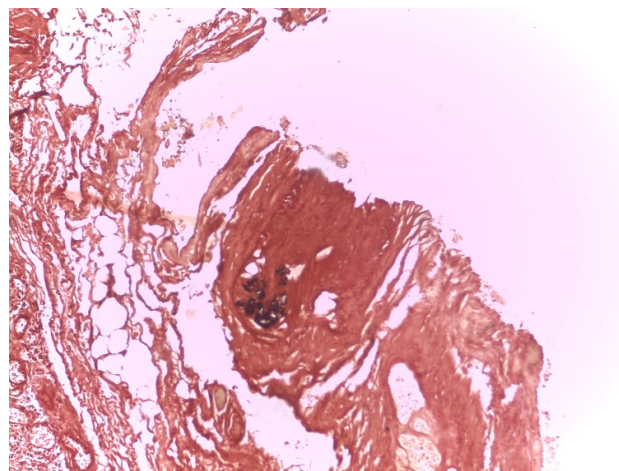


Figure 2 Von Kossa stain

Case 2

50 year lady presented with anterior neck swelling since childhood, with h/o palpitation, sweating, tremors since 6 months. Her TSH was low with high T4 and T3. Thyroid Scan showed overall increase function by thyroid gland with cold nodule. FNA from cold nodule was suggestive of colloid goiter.

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Patient underwent Total thyroidectomy and biopsy was suggestive of Chronic lymphocytic thyroiditis (mixed) with focal features of Granulomatous thyroiditis with areas of monckeberg's sclerosis.

Case 3

45 year old lady presented to OPD with anterior neck swelling since 10 years. On examination b/l lobes were enlarged with multiple nodules and largest nodule measuring 4x3cm. Fine needle aspiration from the largest nodule was s/o benign nodule. Patient underwent Total thyroidectomy. Histopathology came out to be papillary thyroid cancer with monckeberg's sclerosis (Figure 3) von Kossa's stain confirmed the nature of the deposits by staining the calcium black.(Fig 4)

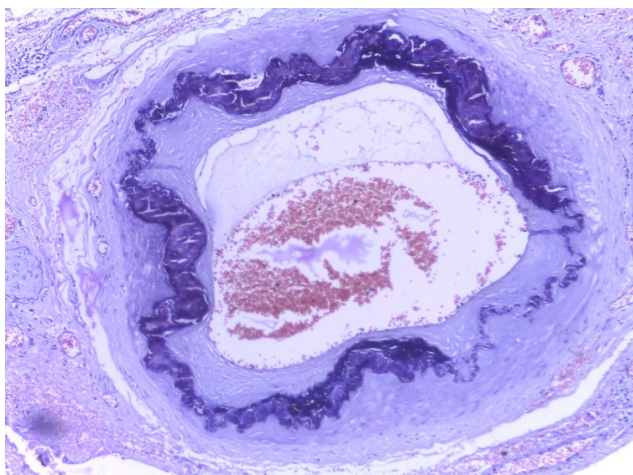


Figure 3 Monckebergs sclerosis in Papillary thyroid cancer

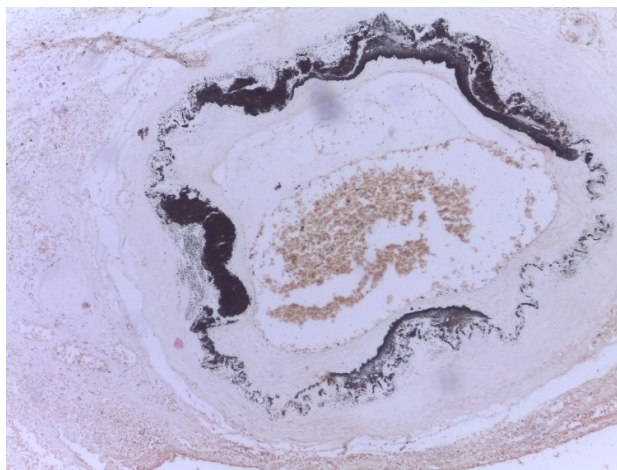


Figure 4 Von kossa stain

DISCUSSION

Monckebergs sclerosis is a benign condition. It is commonly mentioned in arteries of lower limb. Monckeberg's sclerosis has been described in case reports [2-5] as well as several case series[1,6-8]. However it has also been described in women in uterus, breast and thyroid specimens. As considered before, monckebergs sclerosis cannot be considered a harmless situation. MS is usually present in old age, however we report the cases in young females less than 50 years. Study by Sato et al [9] suggested that a physiological concentration of thyroid hormone directly facilitates MGP gene expression in smooth muscle cells via thyroid hormone nuclear receptors, leading to prevention of vascular calcification in vivo. In our patients two were euthyroid and other hyperthyroid. In view of increase cardiovascular morbidity associated with calcification of medium size arteries these patients should be thoroughly examined for other sites of calcification. Further studies need to be done to understand the relation between thyroid vessel calcification and general pathology associated with it

CONCLUSION

When monckebergs sclerosis is diagnosed in small or medium-sized arteries, further examinations should also be done to establish if other larger arteries are also I, especially if the patient is diabetic or has renal disease, in which case, the risk for cardiovascular events is even higher.

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