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A 64-year-old male patient, who is human immunodeficiency virus (HIV) positive on treatment, presented with a two-year history of a painful swelling involving the left parotid gland. Cone beam computerised tomographic (CBCT) imaging was performed (Figures A-D). What are the pertinent radiological findings and your diagnostic hypothesis?



INTERPRETATION

Cone beam computerised tomographic (CBCT) imaging showed extensive calcifications of various sizes involving the superficial and deep lobe of both parotid glands. Additionally, superficial dermal calcifications (arrow) caused by dystrophic calcifications from chronic skin conditions such as acne were noted. Dystrophic calcifications occur in chronically inflamed or necrotic tissue, whereas metastatic calcifications are due to metabolic disturbances leading to elevated serum calcium levels. The localised nature of the calcifications, limited to the parotid gland, rules out a metastatic form of calcification. Calcifications in the major salivary glands are classified as intraductal (limited to or obstructing the duct) or intraparenchymal.¹

Multiple intraparenchymal parotid calcifications have been reported in association with Sjögren syndrome (23%) and human immunodeficiency virus (HIV) disease (15%). These calcifications often present as multiple punctate calcifications of various sizes, and are often associated with symptoms of swelling and intermittent pain.¹ Non-neoplastic HIV-associated salivary gland diseases include benign lymphoepithelial lesions, cystic lymphoid hyperplasia and diffuse infiltrative lymphocytosis syndrome (DILS).² Salivary hypofunction, xerostomia and diffuse gland enlargement are also commonly reported. Diffuse parotid calcifications in association with HIV can be contributed either due to the salivary gland dysfunction caused by the disease itself or due to highly active antiretroviral therapy (HAART).²

Patients presenting with multiple bilateral parotid calcifications, in the absence of metabolic disturbances, should be investigated for autoimmune parotitis or HIV infection.

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