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Title: Intraductal carcinoma of submandibular gland in a young female: report and literature review of this rare neoplasm

Body: Intraductal carcinomas (IDCs) of the salivary gland resemble atypical ductal hyperplasia or ductal carcinoma in situ neoplasms of the breast.
We report a case of a submandibular gland IDC in a 27-year-old Chinese female. MRI neck scan showed features of a slow flow venous malformation or haemangioma. On fine needle aspiration cytology, atypical epithelial cells were present. The IDC was surgically excised with clear margins. Histopathology revealed a haemorrhagic cystic lesion with a NCOA4 (exon 6) :: RET (exon 12) gene fusion detected on molecular testing.
IDCs occur rarely, representing 0.06% of all salivary gland neoplasms , with only 3.76% arising in the submandibular gland2. The mean age of the patient population is 60.30 years . Clinical as well as radiological and cytopathological features are unhelpful in coming to a definitive diagnosis. Conversely, final diagnosis tends to hinge on immunohistochemistry and molecular analyses post-excision, as shown in our patient.
Complete surgical excision with negative margins is the definitive treatment for IDCs. Use of adjuvant therapies such as chemotherapy and radiotherapy are not justified. Precision therapy such as RET protein inhibitors has been increasingly relevant as therapeutic alternatives.
In summary, the lack of literature of an IDC of the submandibular gland given its uncommon presentation, together with its lack of definitive features early in the diagnosis process, makes this case a clinical gem to document.

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