



Clear cell carcinoma of salivary gland - A diagnostic challenge

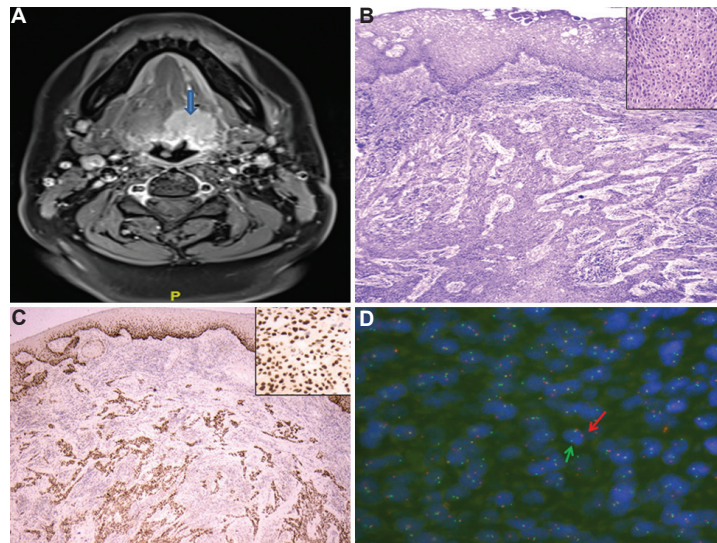


Figure. (A) Magnetic resonance imaging neck showing a non-circumscribed lesion in the posterior third of tongue on left involving the base of the tongue, extending to the floor of the mouth (blue arrow). (B) Histology shows an unencapsulated tumour composed of cells arranged as irregular cords and nests separated by hyalinized stroma involving the subepithelial tissue with occasional connection to the overlying stratified squamous epithelium. Tumour cells have eosinophilic cytoplasm, round or oval nuclei with mild nuclear atypia and variably conspicuous small nucleoli. Occasional mitotic figures were noted (H and E $\times 100$, H and E $\times 400$, inset). (C) Immunohistochemistry with p63 showing diffuse and strong nuclear positivity in the tumour cells ($\times 100$). Inset shows higher power view of p63 expression in the tumour cells ($\times 400$). (D) Fluorescence *in situ* hybridization using *EWSR1* (22q12) dual-colour, break-apart probe showing positive results for *EWS* gene rearrangement [1 yellow fusion signal and 1 pair of split orange and green signals (orange-centromeric side and green-telomeric side, arrows) in most nuclei].

A 40 yr old female[†] presented to the Head and Neck Surgery department at Tata Medical Center, Kolkata, India, in June 2019, with dysphagia for the past one and a half months. On examination, there was a proliferative growth on the left side of the base of tongue. Magnetic resonance imaging neck (Figure A) showed a non-circumscribed lesion measuring $2.2 \times 2.2 \times 2.3$ cm in the left posterior third of the base of tongue extending to the floor of the mouth. Histopathology (Figure B) revealed an infiltrative tumour arranged as irregular cords and nests separated by hyalinized stroma.

Immunohistochemistry (Figure C) with CK7, p63 and p40 was positive. An impression of clear cell carcinoma (CCC) of minor salivary gland origin was made. Since most CCCs harbour *EWSR1-ATF1* fusions, not found in other types of salivary gland tumours, fluorescence *in situ* hybridization (FISH) analysis (Figure D) for *EWSR1* gene rearrangement (translocation 22q12) was performed which was found positive. Wide excision of the tumour was done by transoral robotic surgery and the patient was disease free on follow up after one year. It is imperative to correctly diagnose this entity because

[†]Patient's consent obtained to publish clinical information and images.

CCCs are low grade carcinomas requiring only follow up after surgical resection. Mistaking it for its close mimic squamous cell carcinoma may result in unnecessary aggressive treatment.

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Conflicts of Interest: None.

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