

Facial palsy as isolated presentation of perineural spread from cutaneous squamous cell carcinoma of the head

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Case report

•A **82-year old man** with a past medical history of an **excised squamous cell carcinoma (SCC)** of the right auricular region, complaining of **mild weakness of the right orbicularis oculi**, with **acute onset**.

•Over three months, the **right facial weakness became complete**; the patient also reported **sensory impairment in the territory of the right great auricular nerve**.

•Diagnostic workout:

- **Needle EMG**: at *first presentation*, evidence of muscle denervation in the territory of the temporal branch of the right faciale nerve; at *follow-up*, confirmation of facial palsy progression, while the sparing of the posterior auricular muscle suggested a possible extracranial lesional level.
- **3-tesla MRI scan (brain, temporal bone, face and neck)** and a **PET scan** were negative.
- **Biopsy of the right facial nerve and of the great auricular nerve** revealed the presence of an extensive perineural invasion, by a poorly differentiated SCC (G3).

•The patient was offered a radical surgical treatment but he declined. He was then treated by radiotherapy and currently remains under strict follow-up.

Discussion

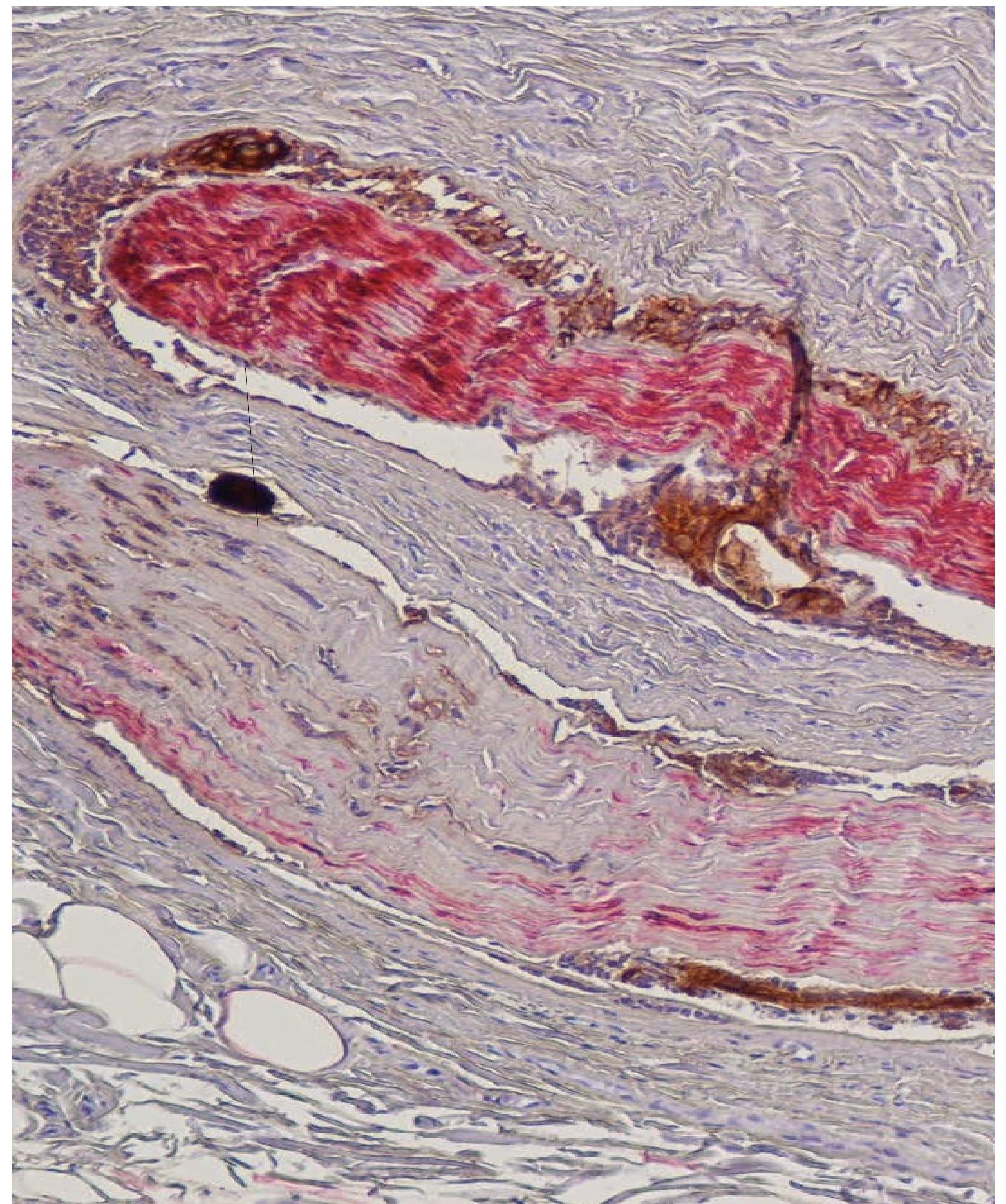
•**Perineural spread (PS)** of head and neck skin cancer is well recognized even if rare (5%)^[1]. There are few literature data ^[1,2] on **facial palsy as the initial presentation of PS** from previously excised head and neck cutaneous malignancy.

•In the presence of this setting, **our case highlights some clues**, which are consistent with PS as the cause of a FP: (1) a *selective and partial involvement of individual branches* of the facial nerve; (2) a *prolonged, slowly progressive course without recovery signs*; (3) a *progressive involvement of multiple cranial nerves*

•**Misleading elements may delay clinical suspicion** of a PS: (1) *the primary tumor may have been excised long before*; (2) *there are often no detectable skin lesions or lymph nodes*; (3) *PS can occur in the absence of radiological findings, even with highly sensitive techniques*.

•If imaging is negative and there's a high suspicion of PS, **extensive nerve biopsy is suggested**.

Light microscope with 10X magnification. Stains: hematoxylin and eosin (standard stain), cytokeratin 19 (epithelial marker).



The axons appear as red-stained (eosinophilic), while the tumor cells appear as brown-stained (cytokeratin 19 staining) and are located within the perineurium (arrow).

References

- [1] Mendenhall WM, Amdur RJ, Williams LS, et al. Carcinoma of the skin of the head and neck with perineural invasion. Head Neck 2002;24:78–83.
- [2] Quesnel AM, Lindsay RW, Hadlock TA. When the bell tolls on Bell's palsy: finding occult malignancy in acute-onset facial paralysis. Am J Otolaryngol 2010;31:339-342.
- [3] Ginsberg LE, Eicher SA. Great Auricular Nerve: anatomy and imaging in a case of perineural tumor spread. Am J Neuroradiol 2000;21:568–571.