



CASE REPORT:

Ectopic Pleomorphic Adenoma of the Cervical Region: Case Report with Integrated Clinical, Radiologic, and Embryologic Insights Adenoma pleomórfico ectópico de la región cervical: Reporte de caso con información clínica, radiológica y embriológica integrada

Ernesto Bruno¹ <https://orcid.org/0000-0002-5648-5444>

Fabio Luciani² <https://orcid.org/0000-0002-2757-6056>

Pietro Tatangelo³ <https://orcid.org/0009-0000-9600-3115>

Bora Kerpi⁴ <https://orcid.org/0009-0000-4126-3032>

Carla Sgroi² <https://orcid.org/0009-0003-0783-1341>

Ermal Pashaj² <https://orcid.org/0000-0001-7147-9854>

Filadelfo Coniglione^{1,2} <https://orcid.org/0000-0001-5592-783X>

Tommaso Perretta⁵ <https://orcid.org/0000-0002-5282-4357>

Erina Alushi⁶ <https://orcid.org/0000-0002-4847-0971>

¹Department of Clinical Sciences and Translational Medicine, University of Rome "Tor Vergata", Rome, Italy.

²Department of Surgical Sciences, Catholic University "Our Lady of Good Counsel", Tirana, Albania.

³San Marco Clinic of Latina City, Otorhinolaryngology Unit, LT, Italy.

⁴Department of Medical Sciences, Catholic University "Our Lady of Good Counsel", Tirana, Albania.

⁵Department of Diagnostic Imaging and Interventional Radiology, Policlinico Tor Vergata, Rome, Italy.

⁶Department of Experimental Medicine and Surgery, University of Rome "Tor Vergata", Rome, Italy. Department of General Surgery, Policlinico Tor Vergata, Rome, Italy.

Correspondence to: Fabio Luciani - dottfabioluciani@gmail.com

Received: 15-III-2026

Accepted: 3-VII-2026

ABSTRACT: Pleomorphic adenoma (PA) is the most common benign salivary gland neoplasm. Its development in ectopic salivary tissue of the lateral neck is exceptionally uncommon, clinically deceptive, and carries a low but documented potential for malignant transformation. Understanding the embryologic basis of cervical salivary heterotopia is essential for accurate diagnosis. A 54-year-old male presented with a painless, slowly enlarging, left lateral cervical mass. Imaging and preoperative fine-needle aspiration cytology suggested a benign salivary-type neoplasm. Complete surgical excision of the mass with an intact capsule was performed. Final histopathology and immunohistochemistry confirmed the diagnosis of pleomorphic adenoma arising in heterotopic salivary tissue, with no continuity to the major salivary glands. No recurrence was detected at 12-month follow-up. Ectopic PA should be considered in the differential diagnosis of left lateral cervical masses. Complete excision and long-term surveillance are recommended because of the risk of late recurrence and malignant transformation. Embryological and molecular insights into its pathogenesis are also provided.

KEYWORDS: Pleomorphic adenoma; Lateral cervical mass; Head and neck pathology.



RESUMEN: El adenoma pleomórfico (AP) es la neoplasia benigna de glándulas salivales más común. Su desarrollo en tejido salival ectópico de la región lateral del cuello es excepcionalmente infrecuente, clínicamente engañoso y conlleva un bajo, aunque documentado, potencial de transformación maligna. Comprender la base embriológica de la heterotopia salival cervical es esencial para un diagnóstico preciso. Un hombre de 54 años presentó una masa cervical lateral izquierda indolora y de lento crecimiento. Las imágenes y la citología por aspiración con aguja fina preoperatoria sugirieron una neoplasia benigna de tipo salival. Se realizó una escisión quirúrgica completa de la masa con la cápsula intacta. La histopatología final y la inmunohistoquímica confirmaron el diagnóstico de adenoma pleomórfico que surge en tejido salival heterotópico, sin continuidad con las glándulas salivales mayores. No se detectó recurrencia a los 12 meses de seguimiento. El AP ectópico debe considerarse en el diagnóstico diferencial de las masas cervicales laterales izquierdas. Se recomienda la escisión completa y la vigilancia a largo plazo debido al riesgo de recurrencia tardía y transformación maligna. También se proporcionan conocimientos embriológicos y moleculares sobre su patogénesis.

PALABRAS CLAVE: Adenoma pleomórfico; Masa cervical lateral; Patología de cabeza y cuello.

INTRODUCTION

Pleomorphic adenoma (PA) accounts for 60-70% of all salivary gland tumors and most frequently arises in the parotid gland (1-3). Outside conventional locations, PA may exceptionally develop in ectopic or heterotopic salivary gland tissue, where its occurrence is often unsuspected and may lead to diagnostic delay (4,5). Heterotopic salivary tissue has been documented at multiple head and neck sites, including the upper aerodigestive tract, cervical lymph nodes, and soft tissues of the neck. In a landmark review of 111 ectopic salivary gland neoplasms of the head and neck, Ferlito *et al.* reported that approximately 80% were benign, with Warthin tumor representing the most frequent histotype (5). The left lateral cervical region represents one of the rarest sites for PA. Since the first description by Pesavento and Ferlito in 1976 (4), only a limited number of cervical ectopic PAs have been reported, and malignant transformation to carcinoma ex pleomorphic adenoma (CEPA), although exceptional, is well documented (6,7). In clinical practice, a solitary left lateral neck mass is far more likely to be approached as lymphadenopathy, a branchial cleft anomaly, a neurogenic tumor, or metastatic

disease (8-10). Lack of awareness of this entity may result in diagnostic delay or underestimation of its malignant potential. We describe a rare case of PA arising from ectopic salivary tissue in the left lateral neck, treated with complete surgical excision and monitored for 12 months without evidence of recurrence, with particular emphasis on the embryological background and the implications for diagnosis, treatment, malignant potential.

CASE REPORT

Written informed consent was obtained from the patient for the publication of this case report and accompanying images. A 54-year-old male presented with a slowly progressive, painless mass in the left lateral cervical region. The swelling had been noticed approximately 8 months prior to consultation, with gradual increase in size but no associated discomfort, dysphagia, dysphonia, or systemic symptoms. Past medical history was unremarkable. On physical examination, a solitary, well-circumscribed, mobile, non-tender mass was palpated at cervical level, measuring approximately 4-5 cm in greatest diameter (Figure 1.A). The overlying skin appeared normal, with no fixation to surrounding tissues. No cervical lymphadeno-

pathy was noted, and cranial nerve examination was unremarkable. Ultrasound imaging demonstrated a well-defined, hypoechoic nodular lesion with smooth margins. Neck MRI revealed a well-circumscribed, ovoid mass in the left lateral neck, superficial to the deep cervical fascia and clearly separated from both the parotid and submandibular glands. The lesion appeared markedly hyperintense on T2-weighted images (Figure 2.A), and isointense on T1-weighted sequences. Following gadolinium administration, the mass showed intense, homogeneous enhancement without septations or necrotic areas (Figure 2.B-D). No invasion of adjacent structures or enlarged lymph nodes were identified. A coronal STIR sequence confirmed a hyperintense, well defined lesion without surrounding edema or pathological lymphadenopathy (Figure 2.E). Ultrasound-guided fine-needle aspiration cytology (FNAC) was performed and revealed cytomorphic features consistent with a benign salivary-type neoplasm, favouring pleomorphic adenoma. Based on clinical, radiologic, and cytologic findings, surgical excision was planned. Complete excision was performed under general anesthesia. A lateral cervical incision was made, followed by subplatysmal flap elevation (Figure 1.B).

The strap muscles were gently retracted anteriorly. Submuscular dissection exposed a well-

circumscribed, encapsulated mass with preserved cleavage planes, not adherent to adjacent structures. The lesion was completely excised with preservation of capsular integrity, and the tumor bed appeared free of residual tissue (Figure 1.C). The gross specimen consisted of an oval, well-encapsulated, tan-reddish mass measuring 5 x 5 x 4 cm (Figure 1.D). The postoperative course was uneventful, and the patient was discharged two days after surgery. Hematoxylin and eosin staining showed a well-circumscribed epithelial neoplasm composed of tubulo-acinar and trabecular structures lined by cuboidal to columnar cells with eosinophilic cytoplasm, set in a myxoid to focally hyalinized stroma (Figure 3.A-C). The lesion was surrounded by a fibrous capsule. No significant cytologic atypia, necrosis, or increased mitotic activity was observed, and all surgical margins were free of tumor. No orthotopic salivary gland tissue was identified in the specimen, supporting origin from heterotopic salivary tissue. Immunohistochemistry showed strong CK7 positivity in luminal epithelial cells and a low Ki 67 labelling index, supporting the diagnosis of pleomorphic adenoma (Figure 4.A-C). The combined morphologic and immunohistochemical findings were diagnostic of pleomorphic adenoma arising from ectopic salivary tissue. At 12-month follow-up, the patient remained asymptomatic with no clinical or radiological evidence of recurrence.

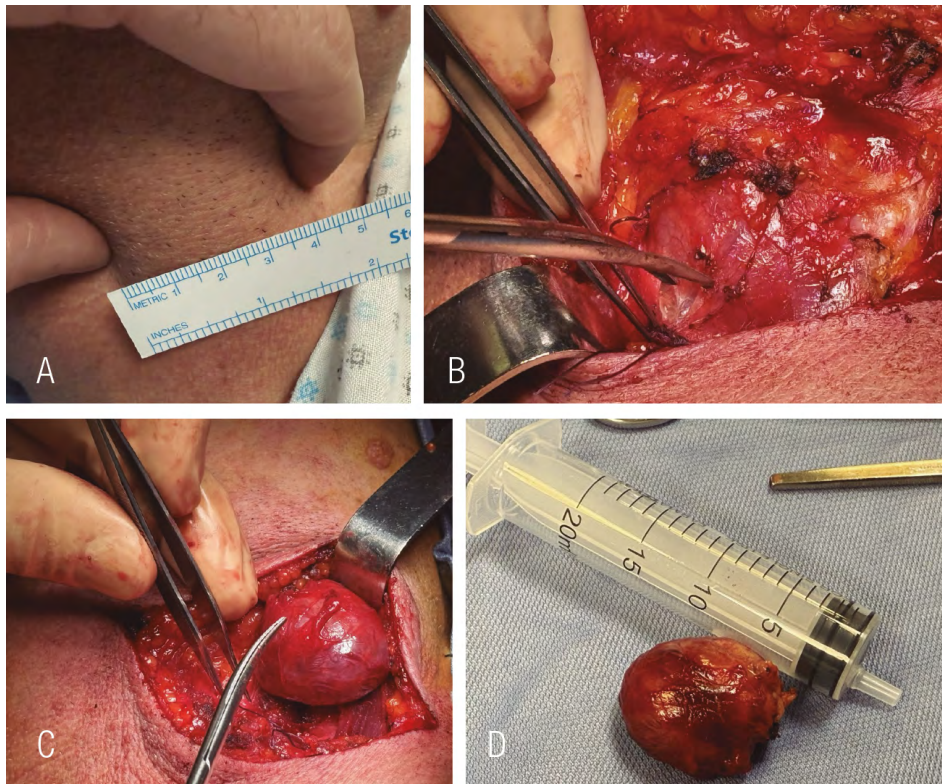


Figure 1. A. Preoperative photograph showing. B. Early intraoperative view of subplatysmal dissection in the left lateral neck. C. Intraoperative view of the well encapsulated ovoid mass completely exposed and dissected free from surrounding soft tissues. D. Gross specimen: oval, well encapsulated mass.

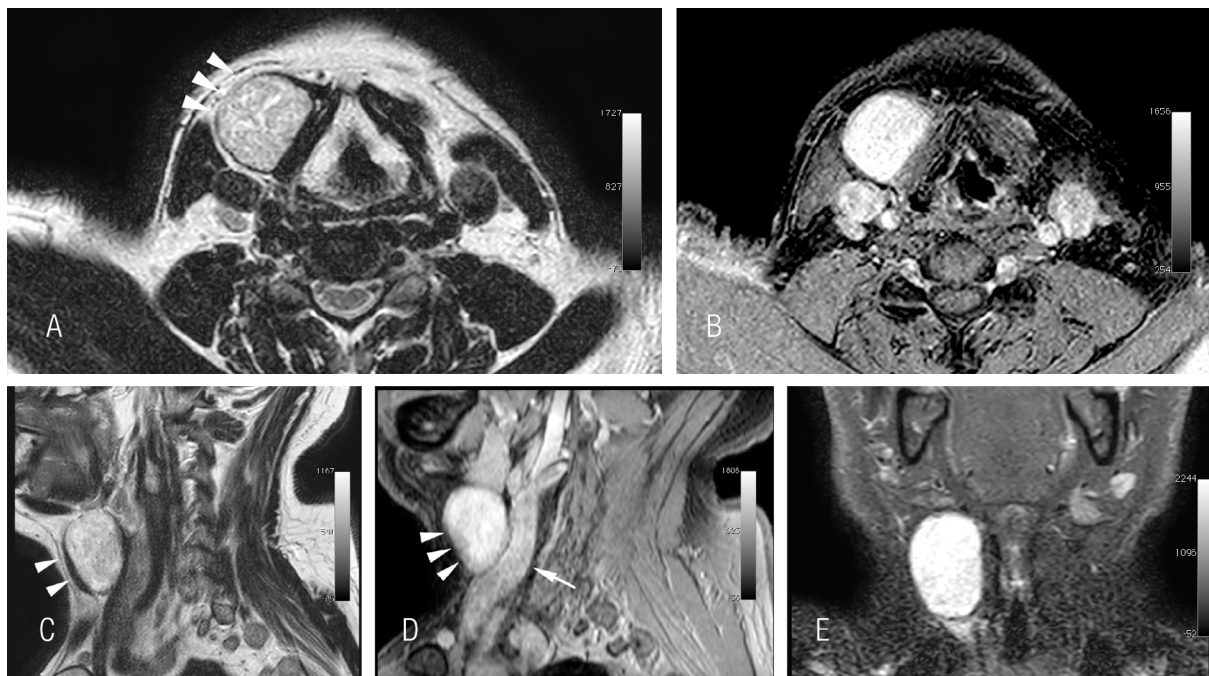


Figure 2. A. Axial T2 weighted image showing a well circumscribed, markedly hyperintense ovoid mass in the left side of the neck. B. Axial post contrast T1 weighted image demonstrating intense, homogeneous enhancement of the lesion. C. Sagittal T2 weighted image. D. Sagittal post contrast T1 weighted image. E. Coronal STIR image.

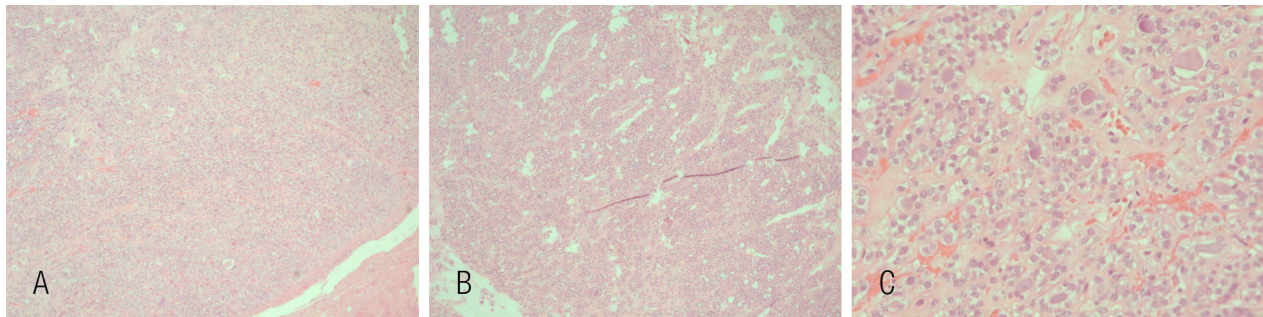


Figure 3. A. Low power H&E view showing a well circumscribed epithelial neoplasm (4×). B. Intermediate power H&E view highlighting cuboidal to columnar epithelial cells with eosinophilic cytoplasm and bland nuclei (10-20×). C. High power H&E image detailing the epithelial component arranged in tubulo acinar and trabecular structures (20×).

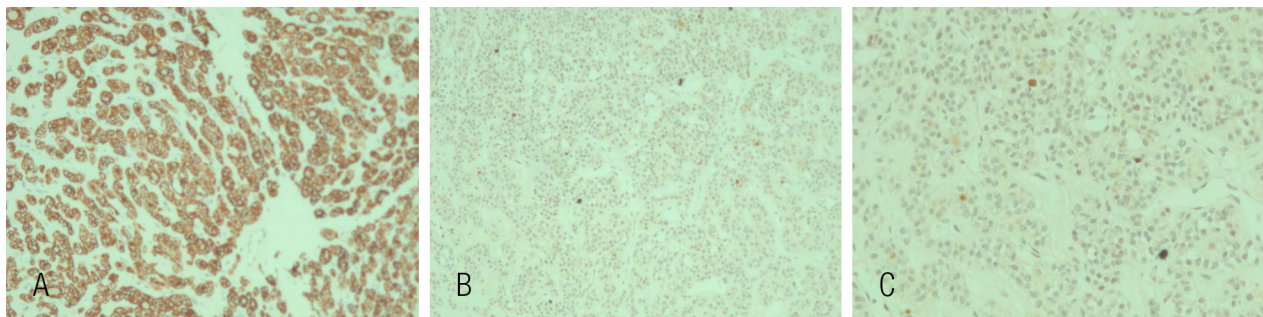


Figure 4. A. CK7 immunostaining showing strong. B. Ki 67 immunostaining at low power magnification showing. C. Ki 67 immunostaining at higher power magnification.

DISCUSSION

Cervical ectopic pleomorphic adenoma is an exceptionally uncommon entity, with only a limited number of cases documented over the past five decades. Most reported lesions present as a slowly enlarging, painless lateral neck mass and are treated by surgical excision, with no recurrences documented among benign tumors with adequate follow up. Nevertheless, isolated cases of carcinoma ex pleomorphic adenoma (CEPA) arising in heterotopic cervical salivary tissue confirm that this location shares the malignant potential of orthotopic PA (11-15). The absence of orthotopic salivary tissue in the present specimen supports origin from heterotopic salivary rests. Building on Willis's classic concepts, Ferlito and colleagues outlined several mechanisms for salivary ectopia, including persistence of embryonic salivary structures, displacement of salivary primordia during

development, and aberrant differentiation of local tissues (5). The most widely accepted hypothesis implicates epithelial remnants from the branchial apparatus and the precervical sinus of His, which may become sequestered along cervical lymphatic pathways during early gestation (16, 17). This explains how a salivary-type tumor can arise in the lateral neck without anatomical continuity with the major salivary glands. Ectopic PA closely mimics more common causes of lateral cervical swelling such as reactive or metastatic lymphadenopathy, branchial cleft anomalies, nerve sheath tumors, and other primary neck neoplasms, and is therefore rarely included in the initial differential diagnosis (8, 9). Misclassification as metastatic disease has been reported, for example in a supraclavicular lesion initially interpreted as melanoma metastasis on clinical grounds and PET CT uptake (18). Ultrasound represents a useful first line modality but lacks specificity, whereas MRI offers

superior soft tissue contrast and, as in the present case, can clearly demonstrate separation from the parotid and submandibular glands (19, 20). Fine needle aspiration cytology shows variable sensitivity in salivary gland tumors yet, when indicative of a benign salivary type neoplasm in an apparently extra glandular neck mass, should raise suspicion for heterotopic salivary tissue and inform surgical planning (21, 22). The two reported CEPA cases arising in long standing ectopic cervical lesions highlight that prolonged tumour duration may predispose to malignant transformation and underscore the need for systematic histological assessment of all excised neck masses (7, 23). The two reported CEPA cases arising in long standing ectopic cervical lesions highlight that prolonged tumour duration may predispose to malignant transformation and underscore the need for systematic histological assessment of all excised neck masses (24). PLAG1 immunohistochemistry has emerged as a highly sensitive diagnostic marker and may be particularly valuable in small biopsies or ectopic lesions in which the classic biphasic architecture is not fully represented (25). Transition to CEPA has been associated with acquisition of additional genetic alterations, including TP53 mutations and activation of PI3K signalling pathways, supporting a stepwise model of malignant progression (26). Although molecular testing was not undertaken in the present case, PLAG1 based assays (IHC or FISH) could be considered in future ectopic lesions with limited tissue, overlapping morphology, or an unusual clinical course (15, 27). Complete excision with an intact capsule remains the standard of care for PA, irrespective of site (1, 28). Capsule violation, satellite nodules, and pseudopodial extensions are established risk factors for recurrence in parotid PA, (10, 28) and have prompted a shift from simple enucleation to more anatomical, yet function preserving, parotidectomy techniques. It is reasonable to extrapolate these principles to ectopic PA of the neck.

In the present patient, the lesion was completely excised with preservation of capsular integrity and a well defined cleavage plane, conditions expected to minimize the risk of local recurrence. Although long term outcome data specific to cervical ectopic PA are scarce, large parotid series demonstrate that recurrences may arise many years after primary surgery, with mean intervals of approximately 10-12 years and late recurrences reported beyond two decades (13). Contemporary population based studies estimate the risk of malignant transformation to CEPA at roughly 1-3% among long standing or untreated PAs, with higher rates in recurrent disease, and at least two CEPA cases have been documented in heterotopic cervical tissue (7). Our patient remains disease free at 12 month follow up, and the lack of cytologic atypia or necrosis together with a low Ki 67 index are reassuring histopathological features. Nonetheless, in view of the protracted natural history of PA and the documented potential for malignant transformation in ectopic cervical sites, long term clinical surveillance is warranted (7, 23). This report provides comprehensive multimodal documentation—clinical, radiologic, cytologic, surgical, histopathologic, and immunohistochemical—of a rare cervical ectopic pleomorphic adenoma. The detailed MRI characterization and immunohistochemical profile add incremental value compared with earlier case reports, in which imaging and ancillary studies were often limited (4, 8). Limitations include the relatively short follow up period (12 months) and the absence of molecular testing, which precludes correlation between genetic alterations and clinical behaviour. As for all rare entities described almost exclusively in isolated case reports or small series, the available evidence does not allow firm recommendations regarding optimal follow up intervals. We think that the increase of the average life and heterogeneity of population, owing to the emigration, will cause rare diseases increase in the future (29).

CONCLUSIONS

Ectopic pleomorphic adenoma, although rare, should be considered in the differential diagnosis of a solitary lateral cervical mass, especially when imaging demonstrates a well circumscribed lesion clearly separated from the major salivary glands. Complete excision with an intact capsule and along a clear cleavage plane is the recommended treatment and ought to follow the same oncologic principles applied to pleomorphic adenoma of the parotid gland, in order to minimise the risk of local recurrence.

In view of the prolonged natural history of pleomorphic adenoma and documented cases of carcinoma ex pleomorphic adenoma arising in heterotopic cervical salivary tissue, structured long term clinical follow up is advisable even after apparently curative surgery.

COPYRIGHT: This is an open access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and build upon your work non-commercially.

FUNDINGS: No specific funding was received for this work.

CONFLICT OF INTEREST: The authors declare no conflict of interest.

INFORMED CONSENT: Written informed consent was obtained from the patient for the publication of this case report and accompanying images.

ETHICAL APPROVAL: According to institutional and national guidelines, formal ethics committee approval was not required for a single anonymised case report; all procedures conformed to the principles of the Declaration of Helsinki.

AUTHOR CONTRIBUTION STATEMENT: Performed the surgical procedure and contributed to clinical management: E.B., T.P., and E.P.; Supervised the radiological assessment and contributed to image interpretation: T.P.; Supervised the general anesthesia procedures: F.C.; Conceived the study, conducted the literature review, and drafted the manuscript: E.A., F.L., B.K., and C.S. All authors reviewed and approved the final version of the manuscript.

ACKNOWLEDGMENTS: The authors wish to thank the surgical, radiology, and pathology teams involved in the management and documentation of this case.

REFERENCES

1. Eveson J.W., Cawson R.A. Salivary gland tumours. A review of 2410 cases with particular reference to histological types, site, age and sex distribution. *J Pathol.* maggio 1985; 146 (1): 51-8. doi:10.1002/path.1711460106
2. Spiro R.H. Salivary neoplasms: Overview of a 35-year experience with 2,807 patients. *Head Neck Surg.* gennaio 1986; 8 (3): 177-84. doi:10.1002/hed.2890080309
3. Eneroth C.M. Salivary gland tumors in the parotid gland, submandibular gland, and the palate region. *Cancer.* giugno 1971; 27 (6): 1415-8. doi:10.1002/1097-0142(197106)27:6<1415::AID-CNCR2820270622>3.0.CO;2-X
4. Pesavento G., Ferlito A. Benign mixed tumour of heterotopic salivary gland tissue in upper neck: Report of a case with a review of the literature on heterotopic salivary gland tissue. *J Laryngol Otol.* giugno 1976; 90 (6): 577-84. doi:10.1017/S0022215100082475
5. Ferlito A., Bertino G., Rinaldo A., Mannarà G.M., Devaney K.O. A review of heterotopia and associated salivary gland neoplasms

- of the head and neck. *J Laryngol Otol.* aprile 1999; 113 (4): 299-303. doi:10.1017/S0022215100143841
6. Caraway J., Yang A., McKenzie S., Meltzer N., Noller M. Ectopic Pleomorphic Adenoma: A Case Study and Scoping Review of the Literature. *Cureus.* 1 febbraio 2026. doi:10.7759/cureus.102785
 7. Ismi O., Vayisoğlu Y., Arpacı R.B., Eti C., Pütürgeli T., Gorur K., et al. Carcinoma ex pleomorphic adenoma originating from ectopic salivary gland in the neck region: case report. *Gland Surg.* dicembre 2015; 4 (6): 567-71. doi:10.3978/j.issn.2227-684X.2015.01.03 PubMed PMID: 26645012; PubMed Central PMCID: PMC4647010.
 8. Barnes L., Weltgesundheitsorganisation, International Agency for Research on Cancer, curatori. *Pathology and genetics of head and neck tumours: ... reflects the views of a working group that convened for an Editorial and Consensus Conference in Lyon, France, July 16 - 19, 2003. Reprinted. Lyon: IARC Press; 2007. 430 p. (World Health Organization Classification of Tumours; fasc. 9).*
 9. Som P.M., Curtin H.D. *Head and neck imaging.* 5th ed. St. Louis: Mosby Elsevier; 2011.
 10. Zbären P., Stauffer E. Pleomorphic adenoma of the parotid gland: Histopathologic analysis of the capsular characteristics of 218 tumors. *Head Neck.* agosto 2007; 29 (8): 751-7. doi:10.1002/hed.20569
 11. Kaur J., Kaur M. Heterotopic sites of pleomorphic adenoma. *J Fam Med Prim Care.* maggio 2023; 12 (5): 1009-11. doi:10.4103/jfmpe.jfmpe_1591_22 PubMed PMID: 37448942; PubMed Central PMCID: PMC10336950.
 12. Vegari S., Naderpour M., Hemmati A., Baybordi H. Pleomorphic Adenoma of the Cervical Heterotopic Salivary Gland: A Case Report. *Case Rep Otolaryngol.* 2012; 2012: 470652. doi:10.1155/2012/470652 PubMed PMID: 22953114; PubMed Central PMCID: PMC3420560.
 13. La Macchia R., Stefanelli S., Lenoir V., Dulguerov N., Pache J.C., Becker M. Pleomorphic Adenoma Originating from Heterotopic Salivary Tissue of the Upper Neck: A Diagnostic Pitfall. *Case Rep Otolaryngol.* 2017; 2017: 1-5. doi:10.1155/2017/5767396
 14. Hallak B., Kamel M.E., Bouayed S., Yerly S. Atypical localisation of pleomorphic adenoma issue from heterotopic salivary tissue in the supraclavicular region: diagnosis and management. *BMJ Case Rep.* 2 novembre 2020; 13 (11): e237583. doi:10.1136/bcr-2020-237583 PubMed PMID: 33139370; PubMed Central PMCID: PMC7607572.
 15. Valstar M.H., Mast H., ten Hove I., Moonen L.R., Balm A.J., Smeets L.E., et al. Malignant transformation of salivary gland pleomorphic adenoma: proof of principle. *J Pathol Clin Res.* 7 maggio 2021; 7 (5): 432-7. doi:10.1002/cjp2.216 PubMed PMID: 34390320; PubMed Central PMCID: PMC8363925.
 16. Skandalakis J.E., Gray S.W., curatori. *Embryology for surgeons: the embryological basis for the treatment of congenital anomalies.* 2nd ed. Baltimore: Williams & Wilkins; 1994. 1101 p.
 17. Sadler T.W. *Langman's medical embryology.* Fourteenth edition. Philadelphia: Wolters Kluwer; 2019. 432 p.
 18. Hallak B., Kamel M.E., Bouayed S., Yerly S. Atypical localisation of pleomorphic adenoma issue from heterotopic salivary tissue in the supraclavicular region: diagnosis and management. *BMJ Case Rep.* novembre 2020; 13 (11): e237583. doi:10.1136/bcr-2020-237583
 19. Howlett D.C. High resolution ultrasound assessment of the parotid gland. *Br J Radiol.* aprile 2003; 76 (904): 271-7. doi:10.1259/bjr/33081866
 20. Christe A., Waldherr C., Hallett R., Zbaeren P., Thoeny H. MR Imaging of Parotid Tumors: Typical Lesion Characteristics in MR Imaging Improve Discrimination between Benign and Malignant Disease. *Am J Neuroradiol.*

- agosto 2011; 32 (7): 1202-7. doi:10.3174/ajnr.A2520
21. Schmidt R.L., Hall B.J., Wilson A.R., Layfield L.J. A Systematic Review and Meta-Analysis of the Diagnostic Accuracy of Fine-Needle Aspiration Cytology for Parotid Gland Lesions. *Am J Clin Pathol.* luglio 2011; 136 (1): 45-59. doi:10.1309/AJCPOIE0CZ-NAT6SQ
22. Tryggvason G., Gailey M.P., Hulstein S.L., Karnell L.H., Hoffman H.T., Funk G.F., et al. Accuracy of fine-needle aspiration and imaging in the preoperative workup of salivary gland mass lesions treated surgically. *The Laryngoscope.* gennaio 2013; 123 (1): 158-63. doi:10.1002/lary.23613
23. Marcos Ordóñez M., García Lagarto E., Santos Pérez J., Moráis Pérez D. [Carcinoma on pleomorphic adenoma in cervical salivary heteropia. Handling of one case and literature review]. *Acta Otorrinolaringol Esp.* ottobre 2007; 58 (8): 371-4. PubMed PMID: 17949666.
24. Skálová A., Hyrcza M.D., Leivo I. Update from the 5th Edition of the World Health Organization Classification of Head and Neck Tumors: Salivary Glands. *Head Neck Pathol.* 21 marzo 2022; 16 (1): 40-53. doi:10.1007/s12105-022-01420-1 PubMed PMID: 35312980; PubMed Central PMCID: PMC9018948.
25. Katabi N., Gomez D., Klimstra D.S., Carlson D.L., Lee N., Ghossein R. Prognostic factors of recurrence in salivary carcinoma ex pleomorphic adenoma, with emphasis on the carcinoma histologic subtype: a clinico-pathologic study of 43 cases. *Hum Pathol.* 1 luglio 2010; 41 (7): 927-34. doi:10.1016/j.humpath.2009.12.011
26. Bahrami A., Dalton J.D., Shivakumar B., Krane J.F. PLAG1 Alteration in Carcinoma Ex Pleomorphic Adenoma: Immunohistochemical and Fluorescence In Situ Hybridization Studies of 22 Cases. *Head Neck Pathol.* 8 aprile 2012; 6 (3): 328-35. doi:10.1007/s12105-012-0353-8. PubMed PMID: 22485045; PubMed Central PMCID: PMC3422590.
27. Wolk R.A., Cipriani N.A. Update of newly-recognized salivary gland neoplasms: molecular and immunohistochemical findings and clinical importance. *Histopathology.* gennaio 2025; 86 (2): 183-98. doi:10.1111/his.15289 PubMed PMID: 39108216; PubMed Central PMCID: PMC11649518.
28. Wittekindt C., Streubel K., Arnold G., Stennert E., Guntinas-Lichius O. Recurrent pleomorphic adenoma of the parotid gland: Analysis of 108 consecutive patients. *Head Neck.* settembre 2007; 29 (9): 822-8. doi:10.1002/hed.20613
29. Bartuli F.N., Luciani F., Cardoni G., Muzzi F., Caddeo F., Ottria L., Arcuri C. "Oral Cavity rare lesion: 15 year histories" *Oral&Implantology – 2011* (4); 3-4: 18-22. ISSN: 1974-5648.