

Otorhinolaryngology and Head and Neck Cancer

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Researchers

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Vázquez López, Cristina (FGS)

Venegas Pizarro, María Del Prado (FGS)



DESCRIPTION

Our group is dedicated to research related to Otolaryngology and Head and Neck tumors, both at the clinical and translational levels.

The main area of research of our group is Head and Neck Cancer. In this field, we have an extensive database of all Head and Neck Cancers treated in our Hospital since 1985. We research clinical aspects, as well as the study of genetic, molecular, and inflammatory factors that are relevant to prognosis and/or response to different treatments. In recent years, we have also focused on the use of nanoparticles in the treatment of head and neck cancer. In this field, we have permanent and strong collaborations. Inside the IR, we collaborate with two main groups: Oncogenesis and antitumour drugs (Dr Ramon Mangues) and Genomics of Complex Diseases (Dr Mercedes Camacho). Outside our institution, we have also permanent collaborations with national and international groups.

Also, we are dedicated to clinical studies in endoscopic nasal and skull base surgery. Finally, we also work on different otological problems, mainly genetic deafness with strong collaboration with the Genetic Department.

MAIN LINES OF RESEARCH

- Head and Neck Cancer. (León Vintrol, Xavier).
- Endoscopic nasal and skull base surgery. (Gras Cabrerizo, Juan Ramon).
- Otologic genetic disorders. (Venegas Pizarro, María Del Prado).

SCIENTIFIC CHALLENGES

- **Heterogeneity of Head and Neck Cancers.** Head and Neck Cancers encompass a diverse group of tumors with varying anatomical sites, histological subtypes, and biological behaviour, complicating efforts to standardise prognostic models and treatment strategies.
- **Integration and Analysis of Longitudinal Clinical Data.** Managing and extracting meaningful insights from an extensive, longitudinal clinical database (spanning since 1985) requires advanced bioinformatics tools and robust data integration strategies.
- **Identification of Reliable Biomarkers.** Discovering genetic, molecular, and inflammatory biomarkers that can predict prognosis or treatment response remains challenging due to tumor heterogeneity and the complexity of molecular interactions within tumors.
- **Translating Nanoparticle Research into Clinical Practice.** While nanoparticles hold great promise, challenges remain in optimising their delivery, reducing toxicity, ensuring reproducibility, and conducting robust clinical trials in head and neck oncology.
- **Interdisciplinary and Multicenter Coordination.** Maintaining and expanding effective collaborations across multiple groups—both internal and external—requires continuous alignment of scientific goals, data-sharing protocols, and administrative support.
- **Precision Medicine in Genetic Deafness.** Developing targeted interventions for genetic forms of hearing loss is hindered by the genetic diversity of deafness-related mutations and limited therapeutic options for most identified genes.
- **Advancement of Endoscopic Skull Base Surgery Techniques.** Improving surgical outcomes while minimising complications in endoscopic nasal and skull base surgery demands ongoing innovation in instrumentation, imaging, and anatomical navigation.
- **Bridging Translational Gaps.** Ensuring that findings from molecular and preclinical studies

can effectively inform and transform clinical practice remains a core challenge, especially in complex diseases such as Head and Neck Cancer.

ACTIVE & AWARDED GRANTS

- León Vintro, Xavier & Quer Agustí, Miquel. Búsqueda de marcadores celulares y moleculares que predigan respuesta a inhibidores de punto de control inmune en pacientes con cáncer escamoso de cabeza y cuello de mal pronóstico. PI24/01605. Instituto de Salud Carlos III (ISCIII). Duration: 2025-2027. 121.250,00 €
- Quer Agustí, Miquel. Nanopartículas dirigidas al estroma tumoral como nuevo tratamiento para el cáncer escamoso de cabeza y cuello. PI21/00232. Instituto de Salud Carlos III (ISCIII). Duration: 2022-2026. 159.720,00 €

DOCTORAL THESES DEFENDED

- Bejarano Panadés, Natàlia. Estudio y caracterización de la inmunoexpresión de la Podoplanina en el carcinoma escamoso de cabeza y cuello virus Papiloma humano negativo. 08/01/2024. Universitat Autònoma de Barcelona. Supervisors: Rama López, Julio; Quer Agustí, Miquel. <https://hdl.handle.net/10803/691552>
- Pardo Muñoz, Laura. Factores predictores funcionales de la cirugía transoral robótica en el cáncer de orofaringe. 20/12/2024. Universitat Autònoma de Barcelona. Supervisors: Virós Porcuna, David; Quer Agustí, Miquel. <http://hdl.handle.net/10803/693450>

SCIENTIFIC PRODUCTION

- Brunet A, Rovira A, Quer M, Sanabria A, Guntinas O, Zafereo M, Hartl DM, Coca A, Shaha AR, Marie JP, Vander V, Piazza C, Kowalski LP, Randolph GW, Shah JP, Rinaldo A, Simo R. Recurrent Laryngeal Nerve Intraoperative Neuromonitoring Indications in Non-Thyroid and Non-Parathyroid Surgery.

- Journal of Clinical Medicine. 2024; 13(8):2221. DOI:10.3390/jcm13082221. PMID:38673494. IF:3,000 (Q1/2D). Document type: Review.
- Camacho M, Vázquez C, Valero C, Holgado A, Terra X, Avilés FX, León X. Transcriptional expression of SLC16A7 as a biomarker of occult lymph node metastases in patients with head and neck squamous cell carcinoma. EUROPEAN ARCHIVES OF OTO-RHINO-LARYNGOLOGY. 2024; 281(12). DOI:10.1007/s00405-024-08882-9. PMID:39215860. IF:1,900 (Q2/3D). Document type: Article.
 - Canduela PDD, Jurado F, Beltrán JD, Ruiz CM, Gadea AS, López F. The current situation of tutoring in specialised training in otorhinolaryngology-head and neck surgery in Spain. Where are we? Where do we want to go?. Acta Otorrinolaringologica Espanola. 2024; 75(6). DOI:10.1016/j.otorri.2024.03.002. Document type: Article.
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 - Gras JR, Martel M, Casasayas M, Villatoro JC, García A, Massegur H, Reina F, Muñoz F. Transpalpebral transorbital endoscopic lateral approach to the middle cranial fossa: anatomical study in cadaver. European Journal Of Anatomy. 2024; 28(3). DOI:10.52083/HNNK7711. Document type: Article.
 - Holgado A, León X, Llansana A, Valero C, Casasayas M, Fernández A, Quer M. Warthin's Tumour as a Parotid Gland Incidentaloma Identified by PET-CT Scan in a Large Series of Cases. Indian Journal of Otolaryngology and Head & Neck Surgery. 2024; 76(4). DOI:10.1007/s12070-024-04592-0. PMID:39130264. IF:0,054 (Q4/10D). Document type: Article.
 - León X, López S, Pérez M, Valero C, Holgado A, Quer M, Vega C. Results of surgical treatment of lymph node metastases in patients with cutaneous squamous cell carcinoma of the head and neck. Acta Otorrinolaringologica Espanola. 2024; 75(3). DOI:10.1016/j.otorri.2023.07.007. PMID:38224869. Document type: Article.
 - León X, Neumann E, Holgado A, Vázquez R, Pujol A, Quer M. Oncological results of salvage treatment in patients with oropharynx carcinoma treated with radiotherapy. Acta Otorrinolaringologica Espanola. 2024; 75(1). DOI:10.1016/j.otorri.2023.01.002. Document type: Article.
 - León X, Valero C, Fuster G, Bragado P, Camacho M, Aviles FX. Predictive capacity for local disease control of neogenin-1 (NEO1) transcriptional expression in patients with head and neck squamous cell carcinoma. Clinical & Translational Oncology. 2024; DOI:10.1007/s12094-024-03535-z. PMID:38898351. IF:2,800 (Q2/5D). Document type: Article.
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 - Pujol A, León X, Holgado A, Valero C, Kolanczak K, Quer M, Virós D. External validation of the GETTEC algorithm for elective neck dissection in patients candidates for salvage total laryngectomy. ORAL ONCOLOGY. 2024; 149:106686. DOI:10.1016/j.oraloncology.2024.106686. PMID:38218021. IF:4,000 (Q1/1D). Document type: Article.
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