



PhD student:

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Research project:

Keratoconus in Sardinia: Epidemiological, Clinical Analysis and Therapeutic Perspectives

Abstract:

Background and Objectives

Keratoconus is a progressive bilateral corneal disorder characterized by corneal thinning and cone-shaped deformation, causing significant refractive defects. Previously considered a rare disease, recent epidemiological surveys estimate a global prevalence exceeding 1%, with approximately 2% in Mediterranean regions. This prospective study aims to evaluate, for the first time, the prevalence of keratoconus in the Sardinian population, analyzing the specific epidemiological and clinical characteristics of this region.

Methods

This prospective observational study, spanning 3 years, will involve consecutive patients aged 12-70 years attending the first-visit clinic at the Ophthalmology Department of the University of Cagliari. Diagnosis will be performed through clinical evaluation and corneal tomography (OCULUS Pentacam®), using the Belin ABCD classification system. Environmental and genetic risk factors will be analyzed, including family history, allergies, atopy, and autoimmune diseases.

Expected Results and Impact

We anticipate obtaining the first accurate estimate of keratoconus prevalence in Sardinia, with values potentially similar to or higher than those reported in the Mediterranean basin. The results will constitute the foundation for creating the first regional keratoconus registry, providing crucial insights for clinical practice, healthcare planning, and development of targeted screening strategies. The expected impact includes improved early diagnosis, reduction of advanced forms requiring corneal transplantation, and consequent optimization of patient quality of life and regional healthcare costs.