

EFFECT OF PYCNOGENOL® ON AN EXPERIMENTAL RAT MODEL OF ALLERGIC CONJUNCTIVITIS

**A.I. Akyuz Unsal¹, T. Kocatürk¹, C. Günel², I. Meteoglu³,
I. Kurt Ömürlü⁴, B. Demirci⁵**

¹*Ophthalmology, Adnan Menderes University, Turkey*

²*Otorhinolaryngology, Adnan Menderes University, Turkey*

³*Pathology, Adnan Menderes University, Turkey*

⁴*Biostatistics, Adnan Menderes University, Turkey*

⁵*Medical Pharmacology, Adnan Menderes University, Turkey*

Objective: Allergic conjunctivitis (AC) is a frequent and challenging disease in ophthalmology practice. Steroid treatments can induce cataract and glaucoma. Previous reports have shown that cell protective effect of Pycnogenol® (PYC) is depended on its antioxidant and anti-inflammatory properties. The aim of the study is to investigate the effect of PYC on an experimental AC model when given by systematic route. Material and methods: AC was induced by seven intraperitoneal injections of ovalbumin+Al(OH)₃ for 14 days and consequently, once a day eye dripping of ovalbumin together with intraperitoneally PYC (3 or 10 mg/kg) for seven days treatment. Control rats were given adjuvant Al(OH)₃ and PYC (10 mg/kg/7days); sensitized positive control group has given dexamethasone (1 mg/kg/7days). After the sacrifice of rats, histological evaluation was performed for mast cell count (MCC), TNF-alpha and TGF-beta staining. Results: PYC treatment alone did not show any detrimental effect on the histopathology of conjunctiva. MCC is significantly decreased by both dexamethasone and 10mg/kg given PYC treatment groups on the experimental model of allergic conjunctivitis (MCC: 1,85±0,69/2,42±0,53). This result was statistically significant (p=0,01/p=0,04). TGF-beta negatively, TNF-alpha weak focal staining were the common findings of dexamethasone and PYC treatment groups. Conclusion: The animal model of AC was successfully developed by using aforementioned way, PYC is a safe herbal product; moreover it has alleviated the findings of ovalbumine-induced allergic conjunctivitis histologically.