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Introduction and Aim of the Work

(In The Name of God, Most Gracious, Most Merciful)

INTRODUCTION

The first commercially available hydrophilic lenses appeared during the early 1970s. Since that time the variety of hydrogel materials and designs has expanded to such an extent that the contact lens specialists are faced with a vast array of soft lenses from which to choose.

Their ease of fitting, and rapidity of adaptation has resulted in many specialists choosing such lenses as their first lens of choice. However, one of the major disadvantages with hydrogel lenses continues to be their rapid spoilation with constituents of the tear film. This spoilation may result in reduced acuity (*Gellatly et al.,* 1988), discomfort (*Fowler and Allansmith,* 1980), reduced secretory IgA with increasing risk of bacterial infection (*Vinding et al.,* 1987) and contact lens induced giant papillary conjunctivitis (*Allansmith et al.,* 1977).

Studies have demonstrated that lenses which actually appear (clean) on slit lamp examination have demonstrated quite marked deposition following their biochemical analysis (*Tripathi et al.,* 1980).

The elements that contribute to soft lens deposits and spoilage can be grouped basically under four main headings (*Tripathi and Tripathi,* 1984):

a. **Organic elements**: These include proteins, glycoproteins, lipids, mucins, drugs, cosmetics, as well as microbial contaminants.
b. **Inorganic elements**: These include inorganic salts especially calcium salts (phosphate and carbonate).
c. **Mixed elements** These consist of mucoprotein-lipid complex with or without other organic and inorganic elements.
d. Manufacturing and physical defects, polymer impurity, aging and decay.

The Aim of This Study

In a trial to evaluate any influence caused by both daily and extended wear soft contact lenses on tear film constituents, tear analysis was done to estimate the concentrations of tear calcium, total protein, and IgA in normal non contact lens wearers, asymptomatic soft lens wearers, and in symptomatic soft lens wearers having giant papillary conjunctivitis and/or deposits on their lenses.

These three components were chosen as they are claimed to be important contributors in soft lens spoilage leading to various

complications (*Tripathi and Tripathi,* 1984). The results may be of value in better understanding, early detection and prevention of some of the problems met with soft lens wear.