# INDICATIONS OF PENETRATING KERATOPLASTY AT AL-SHIFA TRUST EYE HOSPITAL, RAWALPINDI

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## ABSTRACT

**Indications of penetrating keratoplasty at Al-Shifa Trust Eye Hospital, Rawalpindi, Pakistan (1992-2004). To analyze the indications, gender and age distribution in patients for penetrating keratoplasty at Al-Shifa Trust Eye Hospital, Rawalpindi (1992-2004). Retrospective analysis of 1,000 eyes having keratoplasty at Al-Shifa Trust Eye Hospital for indications, age and gender distribution. One thousand eyes of 927 patients, 606 (65.37%) males and 321 (34.63%) females were analyzed. Sixty five percent patients were younger than 25 years. The leading indications were keratocouns 367 (36.7%), corneal scars 194 cases (19.4%), bullous keratopathy 115 eyes (11.5%) and corneal dystrophies 112 eyes (11.2%). Indications for keratoplasty at our set up compare well with other studies from the region.**

**Keywords:** Indications, penetrating keratoplasty

## INTRODUCTION

Corneal diseases are among one of the leading causes of blindness in the world. Many of these are preventable and in majority of them vision can be restored after successful penetrating keratoplasty (PKP). Corneal transplant today ranks as one of the most successful organ transplant [1]. It is also the most frequent organ transplant in the world. The indications for corneal transplant can vary from developed countries to developing countries. Factors like patients access to care, socioeconomic development, population growth etc can modify these indications [2].

Cornea and refractive surgery department was established at Al-Shifa Trust Eye Hospital Rawalpindi, Pakistan in 1992. Since then corneal transplants are being performed on a regular basis. The corneal donor supply was from Sri Lanka in the initial years but later the donor tissue was arranged from Canada and the U.S.A.

After complete ophthalmic and systemic evaluation patients were put on the waiting list, priority was given to patients who were young and had bilateral pathology.

The present study was conducted to analyse the indications, gender and age distribution in patients for penetrating Keratoplasty at Al-Shifa Trust Eye Hospital, Rawalpindi from 1992-2004.

## MATERIAL AND METHODS

We analyzed the records for 1,000 corneal transplants performed during 1992 to 2004. Indications for penetrating keratoplasty along with age and gender distribution were analyzed. Patients were distributed in four age groups. Group-A had patients with age between 0 to 15 years, group-B between 16 to 25 years, group-C, 26 to 45 years and group-D 46 years and above.

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## RESULTS

Out of 1,000 eyes from 927 patients who had penetrating keratoplasty, 606 (65.37%) were males and 321 (34.63%) were females (Fig-1). Age ranged between 3 months to 85 years. There were 166 (16.6%) eyes in group-A, 484 eyes (48.4%) in group-B, 189 (18.9%) in group-C and 161 (16.1%) in group-D (fig. 2).

The major indications were keratocouns 367 eyes (36.7%), corneal scars 194 eyes (19.4%), bullous keratopathy 115 eyes (11.5%), corneal dystrophies 112 eyes (11.2%) corneal degenerations 69 eyes (6.9%), trauma 57 eyes (5.7%), regrafts 53 eyes (5.3%), and others in 33 eyes (3.3%) (fig. 3).

Among corneal dystrophies congenital hereditary endothelial dystrophy was the commonest with 37 eyes, macular dystrophy 28 eyes, superficial granular dystrophy 18, Fuch's 11, granular stromal and gelatinous

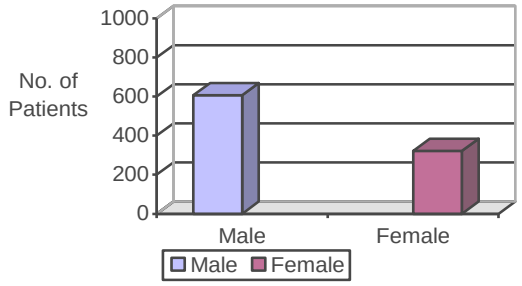


**Fig. 1: Gender distribution (n=927)**

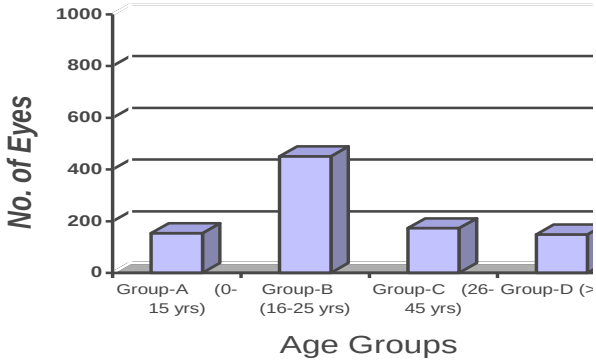


**Fig. 2: No. of eyes operated in various age groups (n=1,000)**

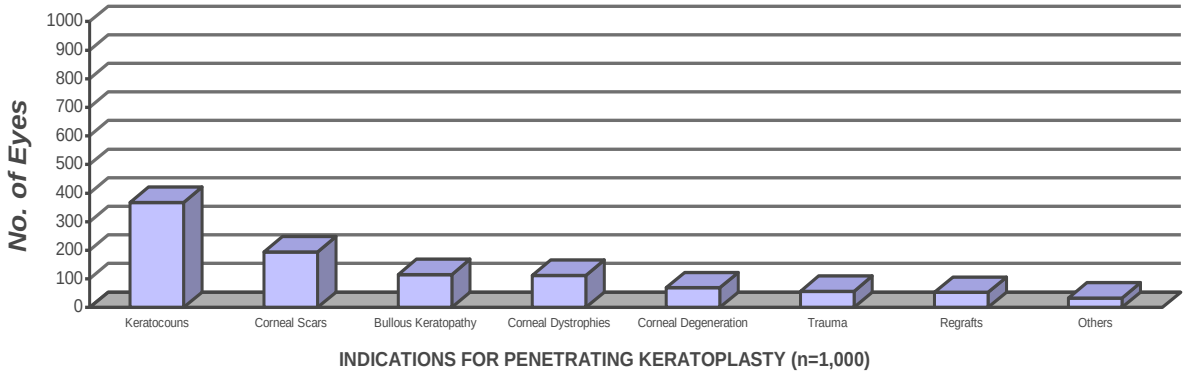


**Fig. 3: Indications for penetrating keratoplasty**

drop like 5 eyes each and central crystalline and Reis Buckler 4 eyes each.

Spheroidal degeneration with 24 eyes was the commonest degeneration followed by lipid keratopathy in 23 eyes, band keratopathy 15 eyes, and Salzmann nodular degeneration 7 eyes.

## DISCUSSION

There were more male patients (65.37%) as compared to female patients (34.63%). This trend is seen almost in any hospital set up in developing or under developed countries where males have comparatively easy accessibility to health care due to various socio economic factors.

Sixty five percent of our patients were under the age of 25 years. This is mainly due to the policy of the hospital where priority is given to young patients below 25 of age and with bilateral disease. Patients older than 25 years or with one eye disease are low on the priority.

The leading indications for the PKP in our study were keratocouns, corneal scars, bullous keratopathy and corneal dystrophies. Keratocouns accounted for 367 (36.7%) cases. This is in line with many other studies from Saudi Arabia, Australia, U.K., U.S.A., Israel, and Canada [2-7].

Corneal scar was the second most common indication with 194 cases (19.4%). Although studies from developed countries do not show this cause as one of the leading causes but studies from Saudi Arabia & Nepal show that corneal scars have been among the leading indications for penetrating keratoplasty [2,8].

Bullous keratopathy was the third commonest indication with 115 (11.5%) cases. Out of these 77 eyes had pseudophakic bullous keratopathy while 44 had aphakic bullous keratopathy. In many studies this has been shown to be the leading indication for penetrating keratoplasty [9-15].

Corneal dystrophies ranked as the forth-commonest cause with 112 eyes (11.2%) in our study. Congenital heredity endothelial dystrophy accounted for 37 eyes and macular stromal dystrophy 28 eyes. Similar results have been shown in studies from South India and Saudi Arabia [16,17].

In general our study shows almost similar indications for penetrating keratoplasty as other studies from the region. We had more cases of keratocouns possibly due to the fact that majority of our patients were from a younger age group as we gave priority to young patients with bilateral disease.

In conclusion keratocouns, corneal scars, bullous keratopathy and corneal dystrophies are major indications for keratoplasty at our set up. Males out numbered females by almost 2:1 and two third patients were under the age of 25 years.

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