SUMMARY

The present study was designed to evaluate the efficacy of bee honey as a topical medication in the treatment of keratitis and postoperative keratopathy in comparison to topical application of antimicrobials. Patients enrolled in keratopathy group were postoperative patients with negative bacteriological examination of obtained corneal swab.

Keratitis group

The study comprised 200 patients with age range of 15-54 years, 130 males and 70 females. There were 50 workers (25%), 75 farmers (37.5%); 27 housewives (13.5%), 26 students (13%) and 22 employees (11%). There were 29 contact lenses wearers (14.5%), 40 patients (20%) had systemic diseases and 41 patients (20.5%) had past history of trauma.

Thirty patients (15%) had past history of previous corneal ulceration that healed but resulted in corneal opacity; 20 were manual workers and the other 10 patients had systemic diseases. The majority of ulcers were moderate (n=120; 60%) and 80 eyes had severe ulcer.

Bacteriological growth was reported in 172 specimens (86%); mixed infection (both bacterial and fungal) was detected in 79 specimens, pure bacterial infection in 56 and pure fungal infection in 37 specimens. Staphylococci were the commonest infecting bacteria (66 specimens), followed by *Ps. aeruginosa* (27 specimens) and *Candida* and *Aspergillus* species that were detected in 46 and 41 specimens respectively. No growth was reported in 28 specimens (14%) and these patients were clinically examined and their ulcers were stained for viral infection and all proved to viral ulcers.

Both lines of treatment could achieve improvement of visual acuity with a significant difference in comparison to pretreatment acuity at 2-weeks. There was dramatic relief of pain with a significant increase in number with

less pain at 1-week and 2-weeks in comparison to pretreatment pain grade and a significant increase at 2-weeks in comparison to pain grade at 1-week. Moreover, topical treatment reduced foreign body sensation significantly ($P<0.05$) in comparison to pre-treatment both at 1- and 2-weeks of treatment, with a significant difference obtained at 2-weeks, but with a non-significant difference between both groups.

Topical application of honey significantly ($P<0.05$) reduced corneal haziness at 1 and 2-weeks in comparison to pre-treatment haziness, whereas topical treatment with antimicrobial non-significantly ($P>0.05$) reduced corneal haziness at 1-week but significantly at 2-weeks with a non-significant difference detected between frequency and degree of corneal haziness at both visits. There was a non-significant ($P>0.05$) difference of frequency and degree of corneal haziness between both groups, but the difference was in favor of patients used honey.

Topical honey application could achieve cure in 100%, 73.3% and 66.6% of corneal ulcers caused by Staph. aureus, *Ps*. Aeruginosa and *Microc*. Luteus; respectively. On contrary, antibiotic local treatment showed a 52.9% success rate in cases with Staph. Aureus.

Keratopathy group

Keratopathy group comprised 50 patients; 26 males and 24 females with an age range of 48-72 years. There were 24 farmers, 12 manual workers and 9 were employees. Thirty patients (58%) free of systemic diseases; while the other 20 patients had variant systemic diseases. Twenty-eight patients had corneal edema; while 22 patients had corneal bullae. Only 3 patients had no pain on touch, 13 had mild, 29 had moderate and 11 patients had severe pain. Seven patients had no foreign body sensation, while the other 43 patients had foreign body sensation. Twenty-one patients had mild, 18 had moderate and 11 patients had severe corneal haziness.

Both lines of treatment could achieve dramatic pain relief, reduced foreign body sensation and corneal haziness with improvement of visual acuity. Improvement was significant after topical therapy for 1-week and 2-

weeks in comparison to pretreatment levels with a non-significant difference both groups.