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Features of the treatment of progressive keratoconus in military personnel

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Objective:

Purpose: To evaluate the treatment of progressive keratoconus in military personnel.

Methods:

Methods. There were 71 military personnel (MP) (89 eyes) with progressive keratoconus under our observation and treatment from 2022 to 10.2025years. The age of the patients was 32.4 ± 6.34 years (ranging from 19 to 45 years); one woman and 70 men. The causes of keratoconus (KC) progression were visual strain and constant eye rubbing in 16 patients (22.5%), and contusions with additional physical exertion in 55 patients (74.5%). KC stages: II - in 18 eyes (20.2%), III - in 67 eyes (75.3%), IV - in 4 eyes (4.5%).

Results:

In the IV stage of the KC (4 eyes) the penetrating keratoplasty was carried out. VA improved to 0.4. The accelerated CLX was performed on 85 eyes (II and III stages of KC). In 2022, 65 CLX were conducted with 5 (7.7%) involving MP. In 2023 - 100 CLX, including 19 eyes (19%) of MP; 2024 - 99 CLX, including 37eyes (37.3%) of MP.

After 6 months: BCVA increased by 0,1 to $0,55 \pm 0.35$, $p=0,16$;

The corneal thickness (thinnest local) was no significant decrease 447 ± 35.4 nm, $p=0,5$; The degree of astigmatism decreased by 0.67 to 2.77 ± 1.35 , $p=0,12$;

The maximum keratometry decreased by 3.62 D to 52.8 ± 6.26 D, $p=0,12$.

Conclusion: Among military personnel with KC, patients with stage 3 KC predominated (75.3%). The main surgical intervention was CLX, which increased from 7.7% in 2022 to 37.3% in 2024. Physical exertion and stress experienced by military personnel with KC can serve as triggers for disease progression. It is advisable to conduct investigations into corneal biomechanics and pachymetry (Pentacam) for monitoring the dynamics of development and timely implementation of corneal CLX to halt the progression of KC and preserve vision in military personnel.

Disclosure of Interest: None Declared