Worldwide comparison of prophylactic antibiotic use for eyelid surgery

PURPOSE:
The practice of prescribing postoperative, prophylactic antibiotics has been increasingly scrutinized. Some surgeons have expressed a reluctance to forego antibiotics after eyelid surgery only for fear of violating local, regional, national, or international standards of care. In order to determine current standards of care and to assess the factors influencing antibiotic prescription practices, a worldwide survey of oculoplastic surgeons was conducted.

METHODS:
A survey was developed through the collaborative efforts of a multinational study group. The primary aim of the survey was to identify rates of antibiotic use in different countries. The second aim was to assess factors influencing surgeons’ practices. Factors assessed included geographic location, clinical setting, infection rates, and adverse effect rates. Additional questions were included to assess the usage of intravenous, oral, and topical antibiotics in the perioperative period.

The survey was deployed electronically to members of ophthalmic plastic and reconstructive surgery societies in fifteen different regions worldwide. Results were collected over a 3-week period. Statistical analysis was performed using a dedicated software package. Data were initially analyzed by the practice location and training location of each respondent. Subsequently, a linear regression with logit link function was performed to quantify the independent contributions of the aforementioned factors to the rates of prescription of oral, postoperative antibiotics for routine eyelid surgeries.

RESULTS:
Seven hundred eighty-two responses to the survey were obtained worldwide. Designated regions roughly correlating with society membership included Asia (APSOPRS), Australia (ANZOPS), Brazil (SBCPO), Europe (ESOPRS), France (SOPREF), India (OPAI), Israel (ISOPRS), Italy (SICOP), Latin America (Ojoplast), North America (ASOPRS), Philippines (PSOPRS), Spain (SECPOR), Thailand (TSOPRS), and United Kingdom (BOPSS). Ninety-three percent of respondents reported practicing in an urban environment. Academic and private practices were approximately equally represented.

Practice location was the most significant predictor of antibiotic prescribing practices with a range of 3% in UK to 87% in India (worldwide mean 24%). Within the European Union, Italy had the highest rate of use at 42%, while the UK had the lowest rate at 3%. Among South and Central American countries, Venezuela was highest at 83% and Chile lowest at 0%. In addition, surgeons’ concern for allergic reaction decreased odds of prescribing (odds ratio 0.34, p < 10^-6), while surgeons’ concern for infection increased odds of prescribing (OR 1.80, p <10^-7). p <10^-6). Topical antibiotic use immediately after surgery and for postoperative home care was common in all regions (~85% overall). Fourteen percent of respondents use PERI-operative intravenous antibiotics for routine, uncomplicated eyelid surgeries.

CONCLUSION:
Antibiotic prescribing practices for routine, uncomplicated eyelid surgeries vary widely throughout the world. No standard of care has been established that would require the routine use of postoperative prophylactic antibiotics following eyelid surgery. While surgeons’ perceptions of wound infection rates appear to influence their decision to prescribe, it is unlikely that true variations in infection rates are sufficiently large to warrant the variation seen in antibiotic prescribing practices. Given the data obtained in the current study, the low rate of infection without antibiotic use in comparable regions, and in light of the risks of non-trivial adverse events with antibiotic usage, surgeons should feel empowered to forego postoperative oral antibiotics in routine cases.