Audit of Corneal Scrape Results Using Agar Plates and Brain-Heart Infusion

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Introduction

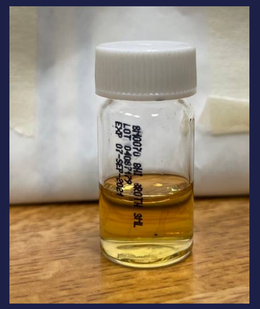
Corneal scrape results can guide treatment for microbial keratitis. Barriers identified to performing a successful scrape include access to culture plates, time taken to scrape and uncertainty regarding technique. Culture positive rates for corneal scrapes reported in the literature range from 32.6-54.0% (1-6).

Aim

To compare the efficacy of inoculated agar plates and brain-heart infusion (BHI) broth on the culture positive rate for corneal scrapes taken in patients with suspected microbial keratitis.

Method

A retrospective review of corneal scrape results provided by Microbiology between January and December 2017 was carried out. The departmental scrape protocol was then changed from inoculating agar plates to using BHI broth in July 2019. Corneal scrape data over a one-year period was subsequently collected between July 2019 and July 2020 to assess the impact of the new sampling method.



Brain-Heart Infusion Broth

Results

Between January and December 2017, 62 corneal scrapes were performed with a culture positive rate of 35% (22/62). The most common organism identified was ***Pseudomonas aeruginosa*** (19%). 79 scrapes were performed between July 2019 and July 2020. A **culture positive rate of 43% (34/79)** was observed during this period using BHI broth. The most common organism identified was again ***Pseudomonas aeruginosa*** (32%).

Conclusions

- The switch to BHI broth in an attempt to simplify the corneal scrape process has produced a similar culture positive rate, demonstrating it is non-inferior to a direct diagnostic method in determining the responsible organisms in suspected microbial keratitis.
- Our culture positive rate using BHI is comparable with the rates identified in the literature.

References

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Comparison of Corneal Scrape Methods

