Pediatric Meningitis in Saudi Arabia: Vaccination Success and Antibiotic Resistance!

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Background

- Saudi Arabia had high rates of bacterial meningitis in the late 90s
- Given it is the melting pot for many Muslims, the country suffers this risk annually
- Children are at the highest risk of this devastating disease with poor outcomes
- Then, mass immunization programs were implemented successfully in hope of countering this serious illness in the early 2000.

Objectives

- Examine the prevalence and etiologies of pediatric meningitis in one of the tertiary hospitals in the capital city, Riyadh, Saudi Arabia 15 years after successful mass immunization against meningococcus, pneumococcus, and Hemophilus influenza type B (Hib)
- Understand some risk factors and emerging antibiotic resistance

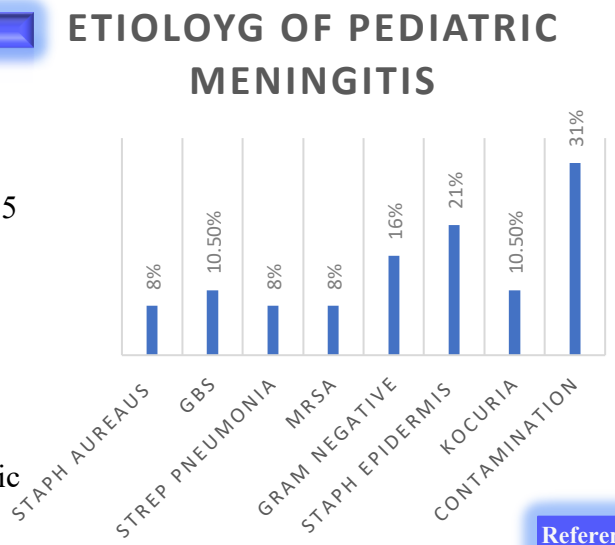
Methodology

- Cross-sectional study, retrospective chart review
- Single tertiary center in the capital city, Riyadh, from 2015 to 2023 named King Saud University Medical City (KSUMC)
- The review included all cerebral spinal fluid (CSF) culture results of the study period along with demographic data of all patients included.

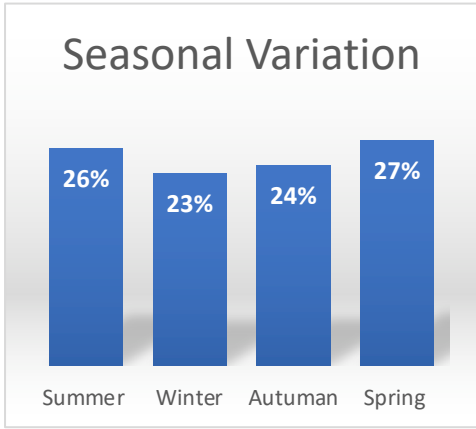
Results

- Pediatric Meningitis caused only 0.5% of total hospital admissions to KSUMC over 8 years

Characteristic	Percentage
Infant	55%
under 2 years	77%
Male	52%
Female	48%
First infection	95%



Results



- All detected Staph Aureus were MRSA
- Half of gram-negative organisms were MDR

Discussion and Conclusion

- Saudi Arabia's effort to lower the burden of meningitis is very successful through mass immunization programs
- Compared to 90s profile of cases, there are no reported cases of Hib or meningococcus
- Future efforts should focus on antibiotic stewardship, Group B streptococcus (GBS) screening, and adopting additional strains for the pneumococcus vaccine

References will be shared upon request: yossef.alnasser@gmail.com

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