

COMPARATIVE STUDY OF TOLUIDINE BLUE SPECIAL STAIN AND IMMUNOHISTOCHEMISTRY IN HIRSCHSPRUNG DISEASE

ABSTRACT

INTRODUCTION

Hirschsprung disease, a congenital disorder with an incidence of 1/5000 live births and is common in male infants (85%). Histopathologically absence of ganglion cells is diagnostic of Hirschsprung disease, but presence of submucosal hypertrophic nerve fibers is an additional positive finding.

AIMS AND OBJECTIVES:

To evaluate the diagnostic efficacy of toluidine blue special stain in diagnosing Hirschsprung disease when compared to immunohistochemistry –calretinin and S 100.

MATERIALS AND METHODS

It is a two years study from August 2016 to July 2018 in a histopathologically proven Hirschsprung disease cases. In 95 biopsy proven cases of disease, 55 were analysed with immunohistochemistry- calretinin ,S 100 and special stain Toluidine blue .

RESULTS

On immunohistochemical evaluation with calretinin 3 out of 55 showed positivity which implies that there is presence of ganglion cells. Special stain toluidine blue showed positivity in 3 cases where ganglion cells were present in which

calretinin was also positive. The results with calretinin and toluidine blue are comparable and the results are statistically significant (< 0.001)

CONCLUSION

To conclude, histopathology alone will not help in confirming the diagnosis of Hirschsprung disease as immature ganglion cells are difficult to identify in histopathology. Immunohistochemistry can be used when there is difficulty in identifying ganglion cells. Special stain toluidine blue can be used as an alternative to immunohistochemistry in places where Immunohistochemistry not available.

Key words: Hirschsprung disease, Ganglion cells, Toluidine blue.