SUMMARY AND CONCLUSION

Enteric fever remains a major problem in developing countries. It is believed that in salmonella species their core structure which shows serological cross-reactivity with some members of the Enterobacteriaceae. Several factors are observed in determining the pathogenesis of Salmonella in causing enteric fever.

In this study 10 (23.8%) from 42 clinically suspected cases of typhoid fever had positive blood culture for S. typhi. Four strains showed a strong positive reaction for Vi antigen as shown by ELISA.

SDS-PAGE and sliver stain were done to characterize separated bands at different moleuclar weight. Immunoblotting of tested Brucella abortus, Brucella melitensis antisera and Shigella different antisera showed that there is no cross reactivity with specific bands for Vi antisera with Brucella abortus and Brucella melitensis while there is a cross reaction with shigella sonnei phase 1 & 2 antisera at 2 bands (34, less than 10 KDa).

Shigella bodydii polyvalent 1,2,3 showed a cross reaction at one band (less than 10 KDa). No bands cross react with shigella Dysenteriae polyvalent (3-10) or with shigella flexneri polyvalent (1-6 xay).

SDS-PAGE and silver stain were done for crude LPS antigen of S. typhi to characterize bands at different moluclar weights.

Immunoblotting of tested Brucella abortus and Brucella melitensis against LPS antigen of S. typhi there is no cross reactivity. With shigella sonnei 2 bands at 80, 60 KDa showed cross reactivity with LPS of S. typhi and also shigella boydii polyvalent 1,2,3 and shigella flexneri polyvalent (1-6, x & y). With Shigella dysenteriae there is no cross reactivity with LPS of S. typhi. A key pathogenic mechanism of S. typhi is their ability to invade the cells of intestinal epithelium. Also, a cytotoxin production may play a role in pathogenesis of S. typhi.

All strains of S. typhi in this study showed invasive power ranged between 1 to 12%; when tested on Henle 407 human intestinal cell lines. This confirm the invasiveness role in the pathogenesis of S. typhi.

2 strains of S. typhi in this study showed a degree of morphological changes of Henle 407 cell lines with the inverted microscope; there was a partial detachment of monocell layer with dilution 1/10, 1/50, while the other strains of S. typhi showed intact cell monolayer in most of the wells. These results may suggest the production of cytotoxin in some strains. These coincides with previous studies that stated that the S. typhi produce cytotoxin.

Thus from the aforementioned review, it can be concluded that :

1- There is no cross reactivity between Vi and LPS antigens of S. typhi and Brucella abortus and Brucella melitensis antisera and shigella dyesenteriae polyvalent antisera.

2- There is no cross reactivity between Vi antigen of S. typhi and

shigella flexneri polyvalent (1-6, x & y) antisera.

3- There is cross reactivity between Vi and LPS antigens of S. typhi and shigella Sonnei (phase 1&2) antisera and to lesser extent with shigella boydii polyvalent 1,2,3, antisera.

4- There is cross reactivity between LPS antigen of S. typhi and Shigella flexneri polyvalent (1-6, x &y) antisera.

5- Invasivness of S. typhi play a major role and the Key in pathogenesis rather than toxin production which may play a role also in pathogenesis of S. typhi.

Recommendation :

1- Use sodium dodecyl sulfate-gel electrophoresis (SDS-PAGE) to separated different antigenic preparations into bands of definite moleuclar weights and can be transfered to nitrocellulose sheets and use of silver stain to detect LPS and protien in these preparations.

2- Immunoblotting technique can be used to detect different antibodies in antisera raised against bacteria of gram-negative bacilli and its use to detect cross reactions with other Enterobacteriaecae.

3- More studies about the toxin production of S. typhi must be done to evaluate more data about its role in the pathogenesis of typhoid fever.