SUMMARY

1. The thesis embodies my observations on the formation and detection of immune complexes induced by *E. histolytica* infection in golden hamster model. For convenience the thesis has been divided into three parts viz., Part I, Part II and Part III.

2. A strain (KCG 0986:11) isolated from human subject in Calcutta has been adapted in monoxenic and axenic condition and was used to establish liver abscess in Syrian golden hamsters.

3. In a dose response study, monoxenically grown amoebae have been shown to produce reproducible liver lesions than axenic counterpart of the same strain.

4. Positive titre of antiamoebic antibody have been detected in animals with lesions only from 9th day after infection onwards. Maximum titre has been observed between 18th-21st day post infection and declined thereafter.

5. Circulating amoebic immune complexes were detected by one of the classical method i.e. Clq binding property of the immune complex.

6. Higher Clq binding pattern in animals with lesions indicating the presence of immune complex, has been observed from 12th day post inoculation onwards.

7. Maximum Clq binding values has been detected from 18th-21st day post inoculation and declined thereafter.
To confirm the involvement of *E. histolytica* component in immune complex, a more specific radio immunoassay has been used in parallel with the non specific Clq binding assay.

Using $^{125}$I labelled affinity purified and affinity depleted anti *E. histolytica* antibody, *E. histolytica* antigen in the form of immune complex has been detected in sera of animals with lesions.

Status of the complexed antigen as evidenced by higher radio active count has been detected from 15th day after infection. Maximum counts were noticed from 18th-21st day post inoculation and declined thereafter.

Deposited immune complex in tissue has been detected in liver and to certain extent, in kidney using above mentioned method.

The overall data tend to suggest that circulating immune complexes have been detected in experimental hepatic amoebiasis in golden hamsters. Presence of specific *E. histolytica* component was detected in such complexes. It has also been observed that deposition of such complexes in certain tissues occur with the course of the infection. The elevated level of immune complexes has positive correlation with the antibody titre and the persistent lesions in the liver.

Close correlation was noted between the liver lesion score, antibody titre, Clq binding and CIC whereas no correlation was observed between the CIC and TIC status.

A general discussion has focussed the mechanism of formation, circulation and deposition of immune complexes.