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The development of anaesthesia since its introduction in 1846 (16th October 1846 by W.T.G. Morton of Boston) has been erratic, long periods of stagnation being occasionally broken by improvements and advances.

The immunological and carcinogenic side effects of anaesthetics, provide, a long and controversial story in the annals of anaesthesia. Despite frequent lack of agreement about the exact nature and extent of these side effects, they continue to be fascinating and important because they may affect profoundly, the well being of patients by altering their susceptibility to post-operative infections, adverse drug reaction, rejection of transplanted grafts or organs and resistance to tumour. In addition, anaesthesiologists and other persons working in operation theatre may also be affected by virtue of their occupational chronic low exposure.

Immuno-responses seem to be depressed after surgical procedure. There is substantial evidence starting from the early observation that prolonged
exposure to nitrous oxide results in leucopaenia in humans and that nearly every anaesthetic depresses white cell production. Since it is well known fact that all anaesthetics are cellular poisons, majority of granulocytic functions are disturbed in persons exposed to anaesthetics. Phagocytic inhibition, in humans and rabbits, after ether anaesthesia is well known since very beginning (Rubin, 1907). Chemotaxis is also known to be depressed after anaesthetics exposure (Moudgil, 1977, Hill et al, 1976). Cells exposed to halothane and nitrous oxide show immunological depression (Bandon, 1977).

The influence of anaesthetics on immune response is of great importance. Both infections and malignancies can be expected to be more devastating in animals or patients who have reduced immuno-competency. Much work has been done on different granulocytic functions like phagocytosis, chemotaxis, but adherence of granulocyte to the endothelium of vessels, is neglected or least studied function. A decrease in granulocytic adherence has been reported in diseases which are associated with increased risk of infections like chronic myeloid leukaemia, diabetes mellitus, acute myeloid leukaemia, multiple myeloma, macro-globulinemia and paroxysmal nocturnal haemoglobinuria (Rabinowitz, 1965; Penny and Galton,
1966 and MacGregor et al, 1978). When all the functions of granulocytes seem to be depressed after exposure of anaesthetics it is very likely that granulocytic adherence may not be an exception.

Considering the significance of the impairment in adherence of granulocytes, as an important factor responsible for recurrent infections in patients during post-operative course and the available literature being very meagre, this study was undertaken.