EXPRESSION OF INTRACELLULAR INTERFERON GAMMA AND PERFORIN IN T CELLS IN ACQUIRED APLASTIC ANAEMIA PATIENTS

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Introduction

- Aplastic anaemia is characterised by pancytopenia with hypocellular bone marrow due to destruction of haematopoietic stem cells by T lymphocytes and their cytokine products.
- Interferon- gamma (IFN-γ) and perforin are important mediators of cell destruction.

Objective

- To investigate the expression of intracellular IFN-γ and perforin in T lymphocytes in peripheral blood (PB) of untreated acquired aplastic anaemia patients.

Material & Methods

- 30 patients were enrolled and stratified as per disease severity: non severe AA (NSAA), severe AA (SAA), and very severe AA (VSAA).
- The cells were cultured in the presence of plate bound anti CD3; anti CD28 for 24 hours and monensin was added in the last 6 hours of culture. The cells were stained with CD5, IFN-γ, perforin antibodies and acquired in flow cytometer.

Results

- Mean % of CD5 T cells expressing IFN-γ was higher in NSAA than SAA+VSAA (P<0.05).
- Mean % of CD5 T cells expressing perforin was higher in SAA+VSAA than NSAA (p<0.05).

Conclusion

- Lower IFN-γ expression in SAA/VSAA as compared to NSAA could be due to the availability of more T cells in NSAA for analysis.
- Higher perforin expression by CD5 T cells could be an aberrant activation marker of immune system in response to an as yet unknown antigen.