

## Case Report

### HLA- B27 DETERMINATION BY BD FACS VIA SYSTEM- FLOW CYTOMETRY

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#### ABSTRACT

HLA- B27, determination plays an important role in the diagnosis of certain Auto-immune disorders conditions like Ankylosing Spondylitis, SLE, Auto-immune pancreatitis. The main objective of the study is to estimate the levels of HLA-B27 by flow cytometry analysis, in the EDTA WB sample from the patients who are suffering with auto-immune disorders. The BD FACS Via system, is the flow cytometry technique (four colour panel) used to determine the HLA-typing. The technique is quantitative and also screening method, used to state whether the auto-immune co infection is associated or not. The principle used is fluorescence labelled antibody binding technique to the blood cell antigen. The scatter plot and histogram curve is also derived with reference to the normal mean value. Here the study mainly involved a group of 25 people who are suffering from the auto-immune conditions, for the demonstration of HLA- B27 in the EDTA EB.

**Keywords:** HLA- B27, EDTA WB, Flowcytometry.

#### INTRODUCTION

HLA-B27 is the type of HLA, mainly detected in Ankylosing Spondylitis. It is an auto-immune condition mainly involves the female of 20 to 30 years age group. Here the patient mainly suffers with chronic back ache and also joint pains. The flowcytometry technique is recently used to determine the estimation of HLA-B27 in blood cells of these individuals.

#### MATERIALS AND METHODS

The study group mainly involves approximately twenty five individuals, who were in patients admitted with the history of chronic backache, auto-immune rashes and severe joint pains for a period of two to four months. On radiological examination shows the Bamboo spine for all these individuals. The retrospective analysis was done by determining the HLA- B27 typing by flow cytometry histogram and scatter plot for all these individuals. The method commonly used is the Immunofluorescence method by the four colour panel of flow cytometry (Red, Blue, Violet, Green). The scatter plot and the histograms are derived in the results of all the 25 cases who were diagnosed with the Ankylosing spondylosis conditions.

#### RESULTS

The scatter plot and histogram of HLA- B27 shows positive for all the individuals with the test value showing positive with reference to the target mean value of 120. Any value less than the value of target mean should be considered as negative value. The CD3+ events are taken into the consideration for the test results, with total Absolute lymphocyte count determination. The scatter plot derived for the results, gating is done to segregate the Lymphocyte population of CD3 type mainly T cells. The histogram plotted with the curve shows the test result plot.

Bamboo Spine

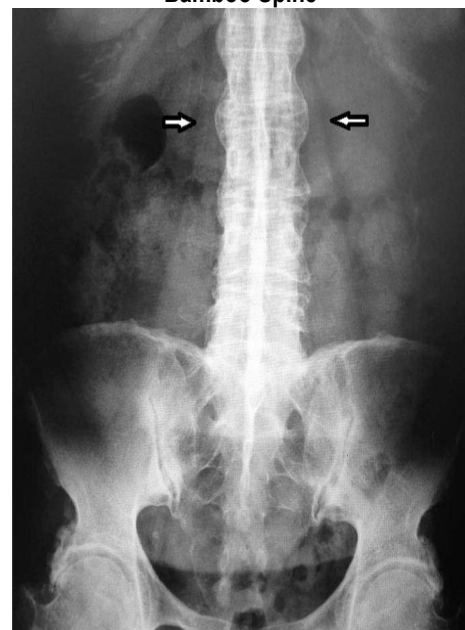


Figure 1.

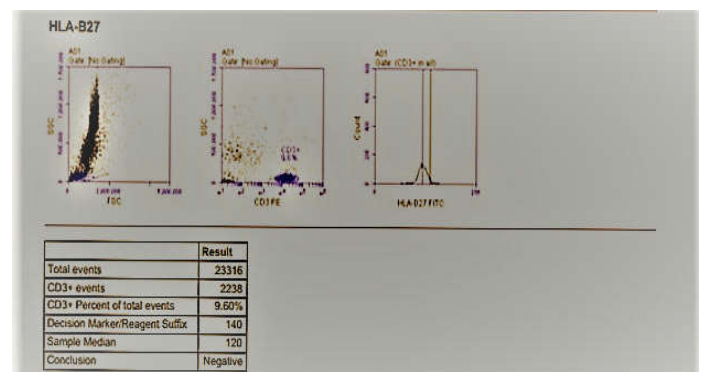


Fig. 2.

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## DISCUSSION

HLA B27 is the type of Human Leucocyte Antigen type mainly diagnosed in the conditions like auto-immune disorders, Ankylosing Spondylosis. The determination of the HLA B27 type by Flow cytometry BD FACS Via system helps in both therapeutic and prognostic significance. The scatter plot and histogram derived by the flow cytometry four colour panel mainly shows the Absolut lymphocyte population, with the bead events. the sample median is taken as the reference range and the test median is determined accordingly. Thus flowcytometry by BD FACS Via system mainly plays in the modern era to determine the HLA B27 typing to diagnose rare disorders.

## CONCLUSION

Thus HLA- B27 is used to determine the auto-immune conditions of the individuals and its determination by flow cytometry plays an important role for futhur confirmation by DNA- microarray technique for the confirmation of the levels in the individuals.

The BD FACS Via system also helps to determine the CD4 + population of T lymphocytes in the HIV conditons also.

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