

## Molecular Ophthalmology and Biomarkers and Cure of Orbital Inflammation

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### Abstract

Treatments are targeted to the needs of individual patients on the basis of genetic, biomarker, phenotypic or psychosocial characteristics that distinguish a given patient from other patients with similar clinical presentations this is dealt in molecular ophthalmology by dealing with biomarkers.

**Keywords:** Molecular Diagnosis; Transcriptomics; Thyroid Eye Disease; Granulomatosis with Polyangiitis; Sarcoidosis; Nonspecific Orbital Inflammatory Disease

### Molecular diagnosis applied to cancer

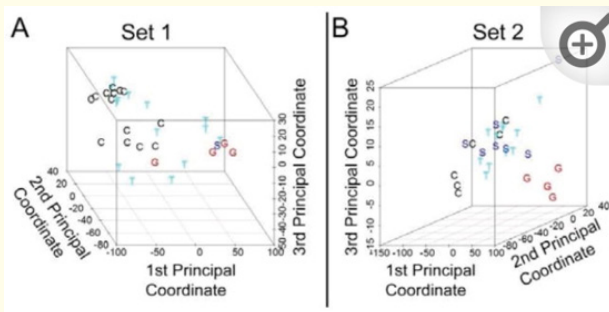


Figure 1

It is the analysis of coordinate of gene expression and here T stands [1] for thyroid, S (sarcoidosis), G( granulomatosis with polyangiitis ) C for control [2].

It is the heat map comparing the [3] gene expression of selected immunoglobulin related to the orbital inflammatory diseases [4] and here red tone indicates increased expression and blue tone indicates decreased expression subjects [5] with thyroid eye disease closely resemble the healthy controls [6]. Subjects with GPA closely resemble the subjects with sarcoidosis. Most of the NSOI

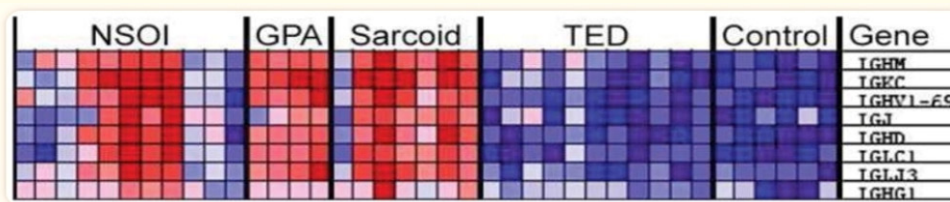


Figure 2

subjects resemble subjects with GPA [7] and sarcoidosis, although some subjects with NSOI have low expression of immunoglobulin related genes similar to the controls or subjects with thyroid eye disease [8].

Its a ven diagram comparing the gene expression from NSOI subjects and comparison with GPA total of 53,798 probe sets were studied. In the discovery set 832 probe sets were differentially expressed comparing the two diagnoses. In the validation set, 45

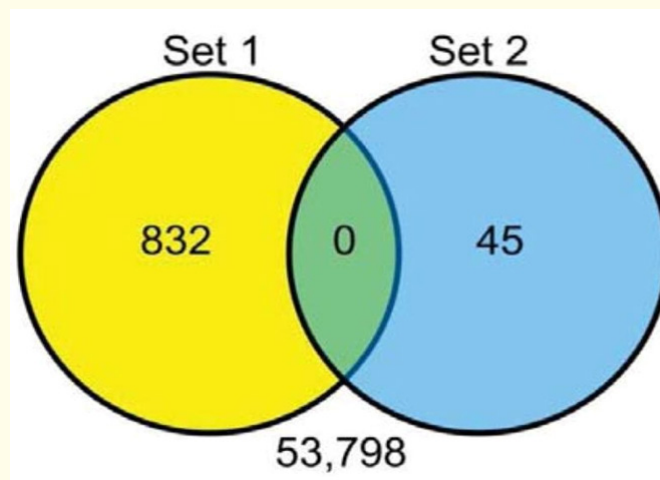


Figure 3

probe sets were differentially expressed. However, none of these 45 probe sets were also detected in the discovery set as differentially expressed. Thus there were no consistent statistically significant differences between the two diagnoses.

#### Treatment

- Gene expression regulation through genetic engineering can be done.
- Gene inhibitors or symptomatic treatment can be prepared.

#### Discussion

In this we discussed about the role of different gene in orbital inflammation through heat map and also a brief introduction of the molecular ophthalmology.

#### Conclusion

There is a significant role of immunoglobulin and specific gene in the orbital inflammation.

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