ABSTRACT BOOK ABSTRACTS



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SKIN MANIFESTATIONS OF INTERNAL DISEASE

## CLINICAL STUDY OF ACANTHOSIS NIGRICANS WITH RESPECT TO INSULIN RESISTANCE

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Background: Acanthosis nigricans refers to velvety hyperpigmentation seen in the flexures. It is a cutaneous marker for insulin resistance (IR), metabolic disorders and rarely malignancy.

Objective: To estimate the prevalence rate of insulin resistance in patients with acanthosis nigricans in our tertiary care centre, to study the dose response relationship between different grades of acanthosis nigricans and insulin resistance and calculation of insulin resistance by homeostasis model assessment (HOMA1-IR) and the updated HOMA2-IR methods thereby comparing the ability of both the indices to identify metabolic disorders in Indians

Material and Methods: 86 consecutive non diabetic patients above 18 years, with acanthosis nigricans , attending our dermatology OPD, were enrolled. History, physical parameters and acanthosis nigricans grades, location and textures were noted. Fasting blood sugar and serum insulin levels were evaluated. HOMA1-IR - [fasting insulin ( $\mu$ U/mL)× fast¬ing glucose (mmol/L)]/22.5 and HOMA1- $\beta$  (20×fasting insulin)/(fasting glucose–3.5) were estimated while HOMA2-IR and HOMA2- $\beta$  data were calculated with a HOMA2 calcula¬tor.

Results: This cross-sectional study of 41 males, 45 females revealed 70 subjects had IR. Grades III and IV, textures II and III, were more predictive of IR. In non-diabetics 1/HOMA2- $\beta$  was a more powerful predictor for progression to diabetes than HOMA1-IR or 1/HOMA1- $\beta$ 

Conclusion: Severe grades and higher textures of acanthosis nigricans are diagnostic clinical tools for IR, hence an inexpensive and non invasive way to identify pre-diabetics in a developing country like India. The original HOMA1 and the updated HOMA model (HOMA2) have been used to evaluate IR and  $\beta$ -cell function, but little is known about the usefulness of HOMA2 in the predic-tion of diabetes in Indians. From our study we note that HOMA2-IR is a more accurate representation as it models the feedback relationship between insulin and glucose in the various organs in the body as opposed to HOMA1-IR.





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