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Title of Thesis: The role of miR 34a-5p, miR- 29b in Diagnosis and Prognosis of Chronic Rhinosinusitis with Nasal Polyps

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ABSTRACT

Background: Chronic rhinosinusitis with nasal polyps (CRSwNP) is one of the common diseases in ENT practice that have a negative impact on quality of life and require a long term medical treatment and also have a high relapse rate after endoscopic nasal surgery. MicroRNAs (miRs) is one of the main regulatory machinery of post-transcriptional gene expression and protein translation with a high promising role for usage as a new biomarkers and treatment of different diseases by normalization of their expression levels.

Objective: to detect the role of miR-34a-5p, miR-29b in diagnosis and prognosis of Chronic Rhinosinusitis with Nasal Polyps (as a new biomarker) and the correlation with clinical and laboratory investigations of the patients.

Patients and methods: This study is a controlled observational study included 100 subjects (50 patients with CRSwNP and 50 controls). History taking, clinical, endoscopic and radiological assessment for the patients were done. The controls were subjected to history taking and examination. Blood samples were drawn from all subjects. RNA extraction and detection of fold change of miR-34a-5p, miR-29b using Real Time PCR were done.

Results: Highly significant down regulation of both marker **miR-34a-5p** and **miR-29b** in patients with CRSwNP was observed and the **ROC** curve demonstrated that **miR-34a-5p** has sensitivity **94%** and specificity **90.9%** and p value <0.001 (highly significant as a biomarker) and **miR-29b** has sensitivity **60%** and specificity **93.2%** and p value 0.003 (highly significant as a biomarker).

Conclusion: Our study highlights the role of **miR-34a-5p** and **miR- 29b** as a new biomarker for CRSwNP and future development of drugs to restore their expression levels back to normal.