## Comparative Study of Ethmoid Bone Osteitis and Tissue Eosinophilia in different Types of Chronic Rhinosinusitis

# Thesis Submitted for the partial fulfillment of M.D. Degree in Otorhinolaryngology

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# Dedication

- ♣ To The Soul Of my father
- **4** To my mother and family
- To my wonderful wife for her support and encouragement
- 🖶 To my lovely Kids Lama & Adam

I dedicate this work

Mohamed Hassan AbdAllah

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# **List of Abbreviations**

AAO-HNS	American Academy of Otolaryngology-
	Head and Neck Surgery
AFS	Allergic fungal sinusitis
ARS	Acute rhinosinusitis
BBS	Bacterial biofilms
BMP	Bone morphogenetic protein
CRS	Chronic rhinosinusitis
CRSsNP	Chronic rhinosinusitis without nasal polyp
CRSwNP	Chronic rhinosinusitis with nasal polyp
DC	Dendritic cell
DNS	Deviated nasal septum
ECRS	Eosinophilic chronic rhinosinusitis
EPOS	European Position Paper on Rhinosinusitis
FESS	Functional Endoscopic Sinus Surgery
HPF	High power field
IL	Interleukin
LM	Light Microscope
LMS	Lund-Mackay score
LPS	Lipopolysaccharide
MMPs	Matrix metalloproteinases
NPs	Nasal polyps

# List of Abbreviations (Cont.)

OMC	Osteomeatal complex	
OPG	Osteoprotegerin	
PGE	Prostaglandin-E	
PNS	Paranasal sinus	
PTH	Parathyroid hormone	
Ses	staphylococcal exotoxins	
SNOT	Sino-Nasal Outcome Test	
SPECT	Single photon emission computed	
	tomography	
TGF	Transforming growth factor	
Th	T helper cells	
TIMPs	Tissue inhibitors of metalloproteinase	
TNF	Tumor necrosis factor	
TSLP	Thymic stromal lymphopoietin	

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