CME ACTIVITY HANDOUT

Beyond AChR

Recognizing and Treating MuSK Ab+, LRP4 Ab+, and Triple Seronegative Myasthenia Gravis

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DISTRIBUTION ACROSS MG SUBTYPES

*AChR dominates diagnosis — but the **~15–20% beyond it** require unique diagnostic and therapeutic approaches.*

QUICK REFERENCE

Subtypes at a glance	AChR Ab+ ~85% of cases	Triple Seronegative ~10% of cases	MuSK Ab+ ~5-7% of cases	LRP4 Ab+ ~1-2% of cases
DIAGNOSTIC PRIORITY	Standard serology; CT chest for thymoma	Cell-based AChR assay; RNS/SFEMG required to confirm diagnosis, consider alternative diagnosis (CMS can mimic MG)	MuSK antibody; RNS / SFEMG if pending	LRP4 antibody; RNS/SFEMG required to confirm diagnosis, consider alternative diagnosis (CMS can mimic MG)
KEY MECHANISTIC FEATURES	AChR blockade, crosslinking / internalization, complement activation	No detectable AChR / MuSK / LRP4 Ab by standard assay; ~20% AChR+ on cell-based assay	Disrupts MuSK–LRP4 interaction, impairing AChR clustering via Dok-7	Disrupts AChR clustering via the Dok-7 pathway, complement activation
COMPLEMENT FIXING	YES IgG1 / IgG3	VARIABLE	NO IgG4	YES IgG1 / IgG3
PREFERRED RESCUE THERAPY	PLEX or IVIG	PLEX or IVIG	PLEX (preferred) or IVIG	PLEX or IVIG
PREFERRED TARGETED THERAPY	Complement inhibitors; FcRn inhibitors; Anti-CD19/CD20	Efgartigimod; otherwise standard AChR-like approach	Rituximab (early); FcRn inhibitors; Anti-CD19/CD20	Standard AChR-like approach once confirmed; Efgartigimod

REFERENCES

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ABBREVIATIONS

AChR = acetylcholine receptor · MuSK = muscle-specific kinase · LRP4 = lipoprotein receptor-related protein 4 · CT = computed tomography · RNS = repetitive nerve stimulation · SFEMG = single-fibre electromyography · PLEX = plasma exchange · IVIG = intravenous immunoglobulin · Dok-7 = Docking protein 7

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