

Supplementary Material

Increased occurrence of pathological mitochondria in perivascular astrocytic end-foot processes and neurons of idiopathic intracranial hypertension

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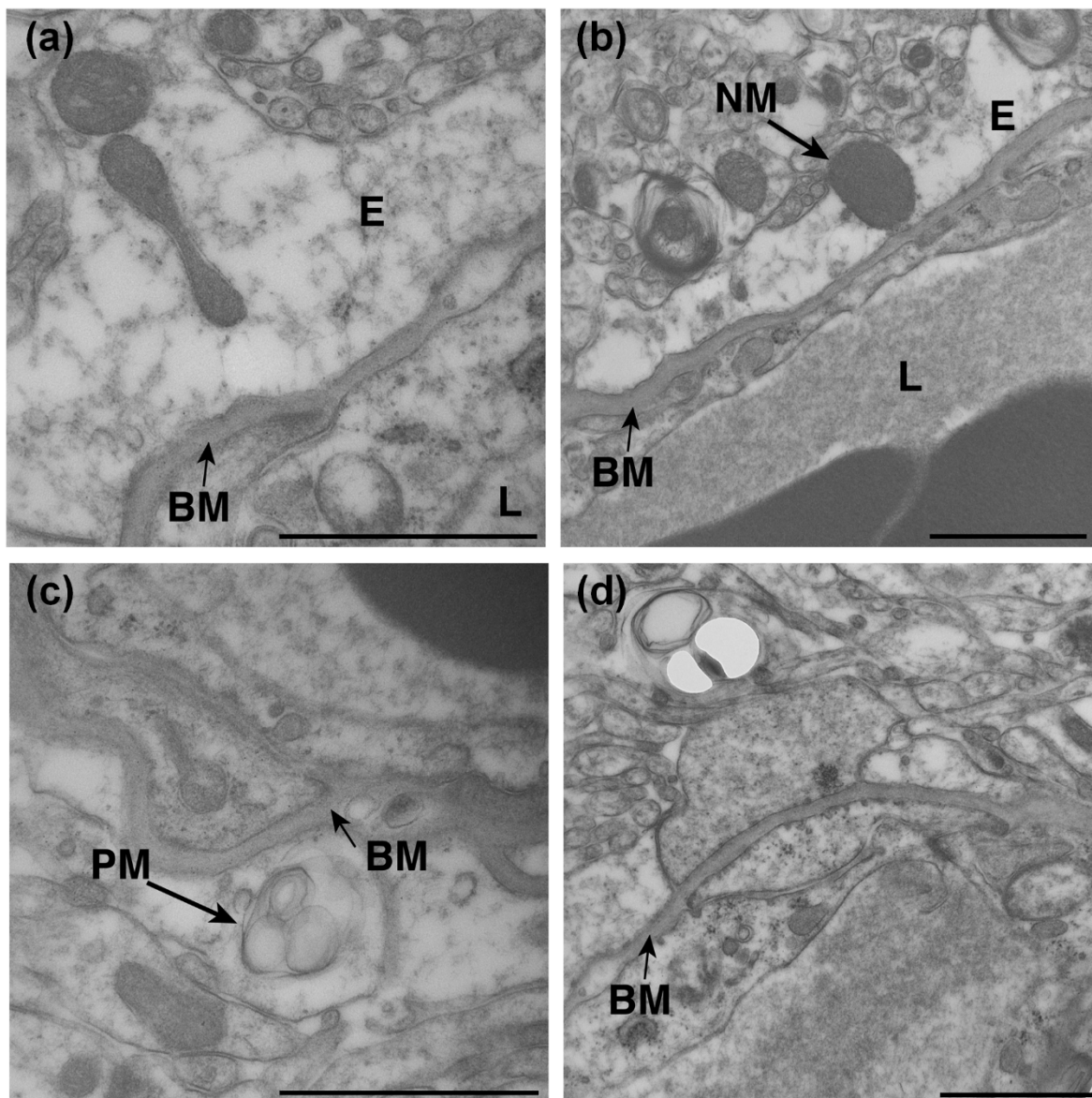
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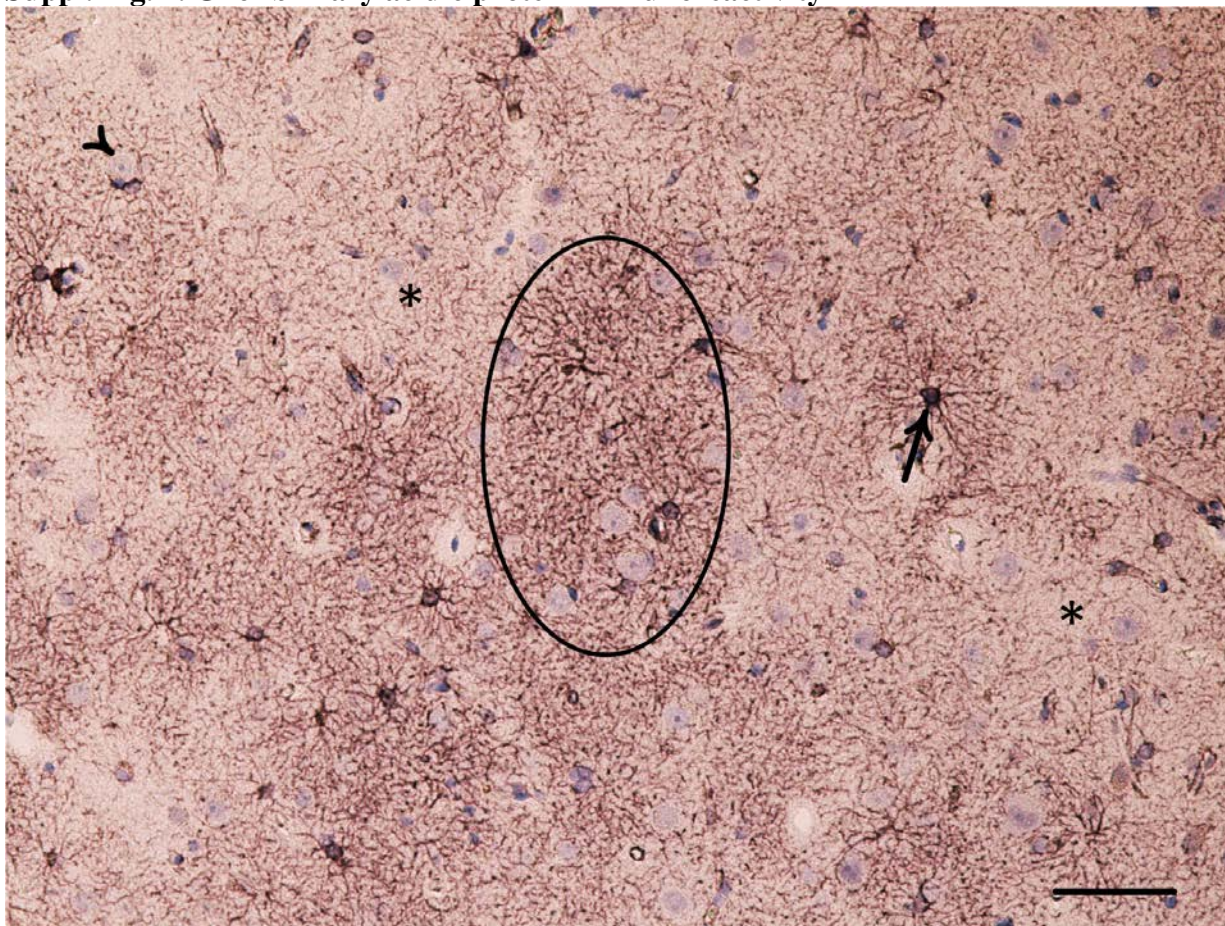
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Suppl Fig. 1. Mitochondria in astrocytic endfoot processes of REF and IIH subjects



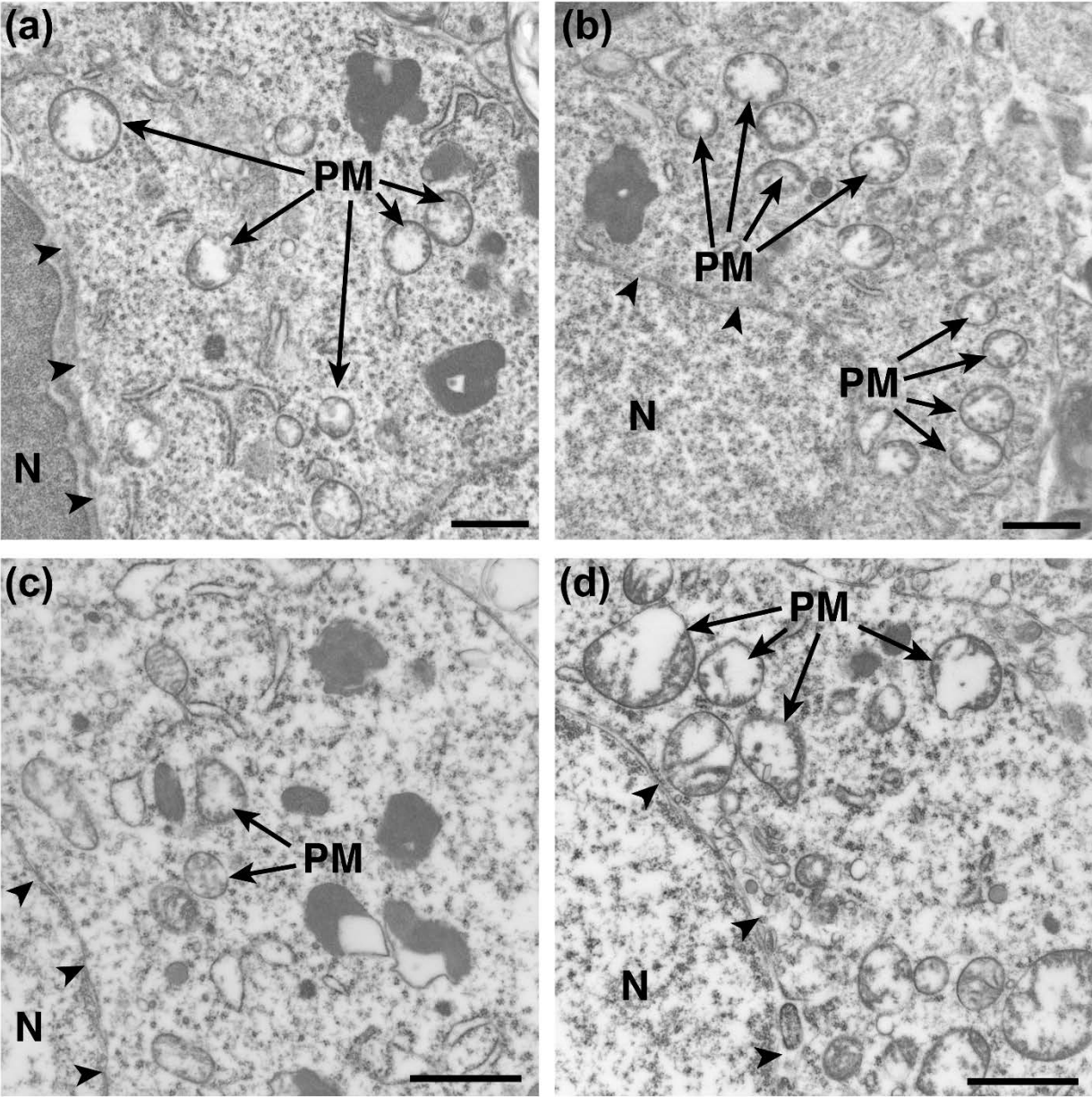
Electron micrographs show (a-b) normal mitochondria (NM) in the astrocytic endfeet (E) of REF individuals, and (c-d) pathological mitochondria (PM) in IIH subjects. Scale bar 1 μ m. BM= Basement membrane; L=Lumen of capillary. Magnification: 26500 x, scale bar 500 nm

Suppl. Fig. 2. Gliofibrillary acidic protein immunoreactivity



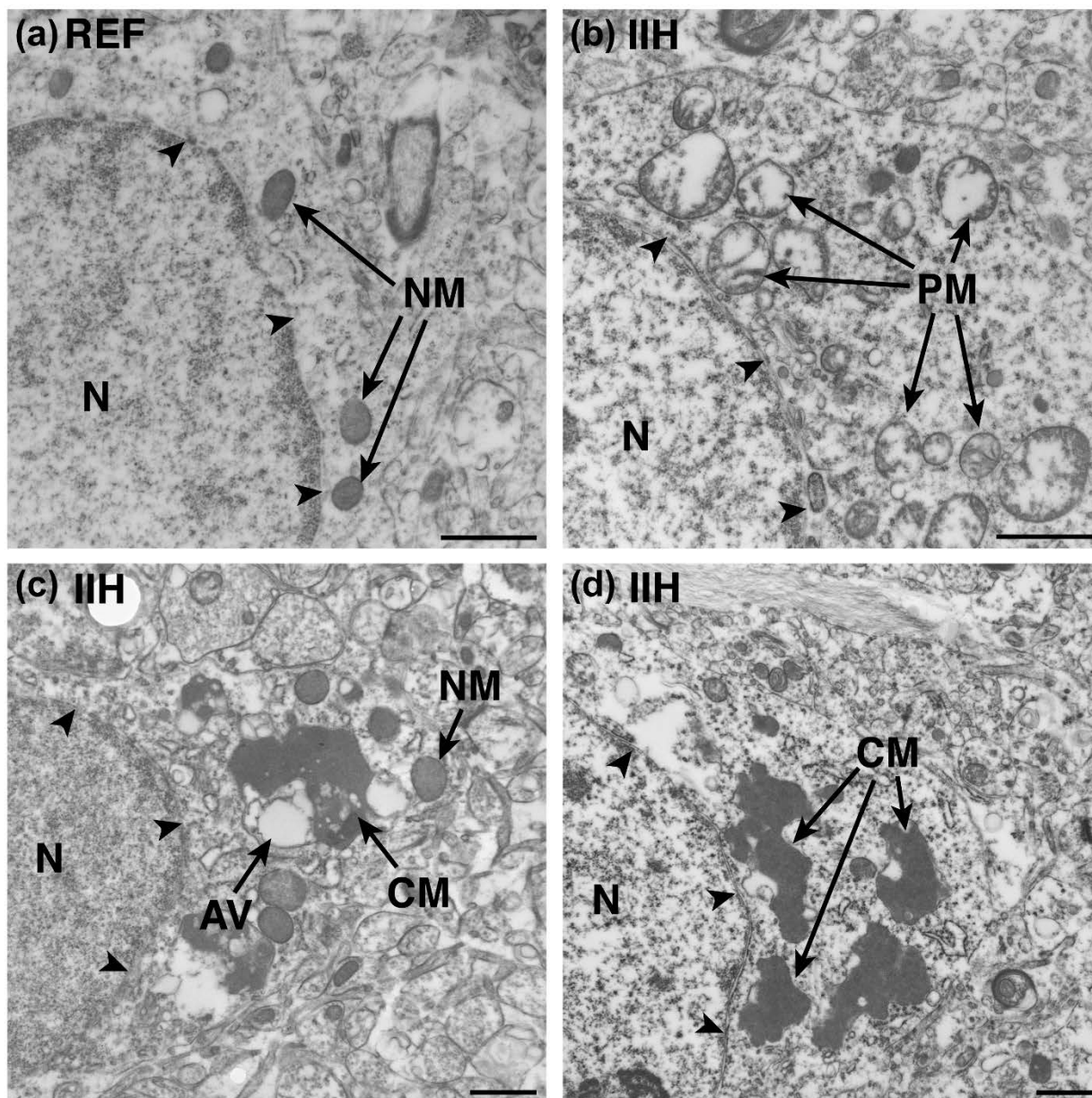
Astrocytes are visualized by their immunoreactivity (IR) for gliofibrillary acidic protein (GFAP). The astrocyte patch in the center (encircled by a black line) is formed by a cluster of hypertrophic astrocytes. The hypertrophic astrocyte marked by a black arrow has an intact domain of stained processes, i.e. no other astrocytes are trespassing. The two asterisks mark areas with low GFAP IR, indicating normal staining. A normal appearing nerve cell is marked by arrowhead. Counterstained with hematoxylin (HE). Bar: 100 μ m

Suppl. Fig. 3. Pathological mitochondria in neuronal soma of IIH patients.



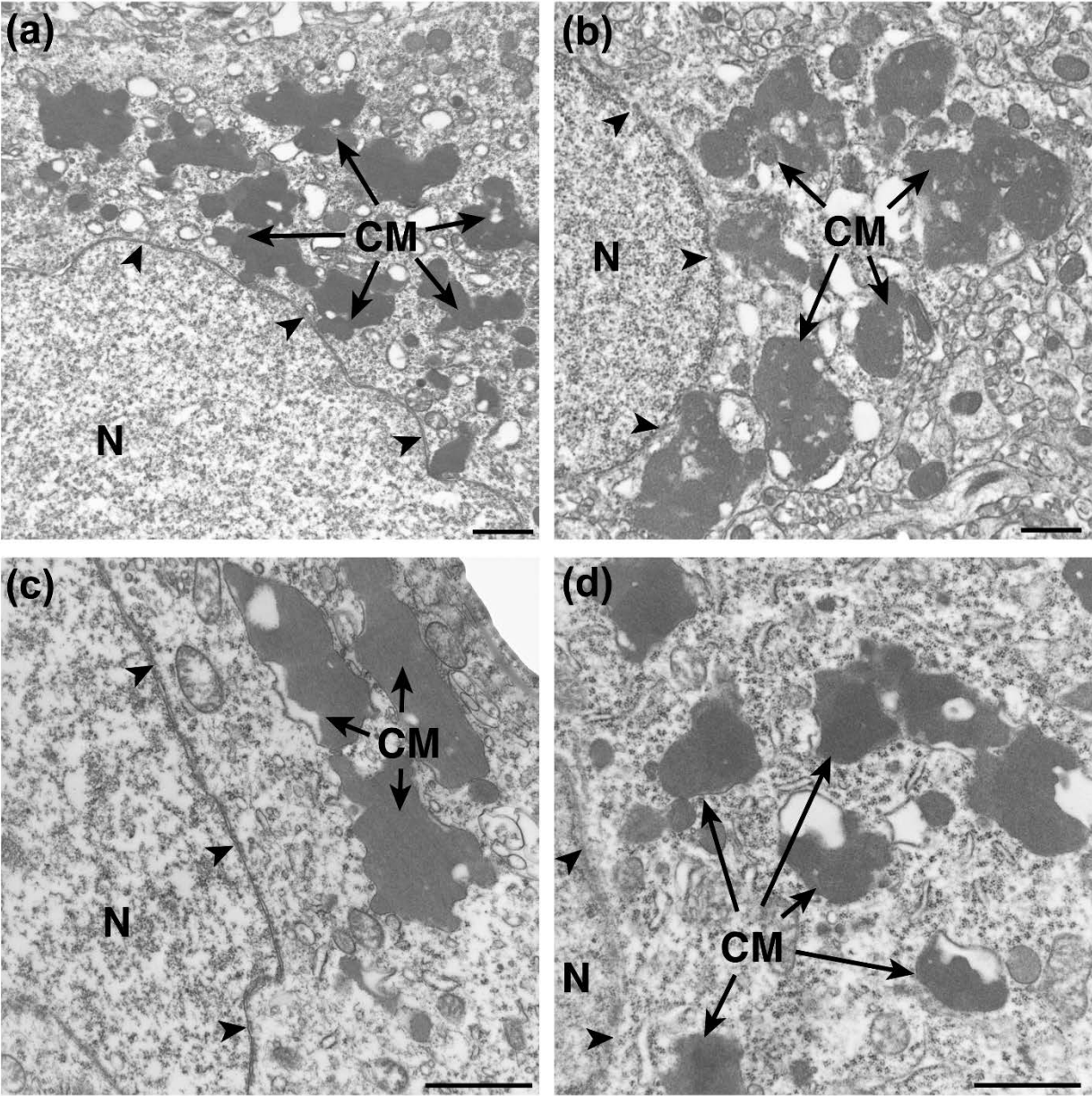
(a-d) Examples of pathological mitochondria (PM) in neurons of individuals with IIH, characterized as light and less electron dense, with less intact matrix cristae, and irregular shape and a swollen appearance. Nuclear membrane of nucleus (N) indicated by black arrowheads. Magnification: a-b) 11500 x, scale bar 2 μm; c-d) 16500 x, scale bar 1 μm.

Suppl. Fig. 4. Increased occurrence of clustered mitochondria in REF and IIH subjects



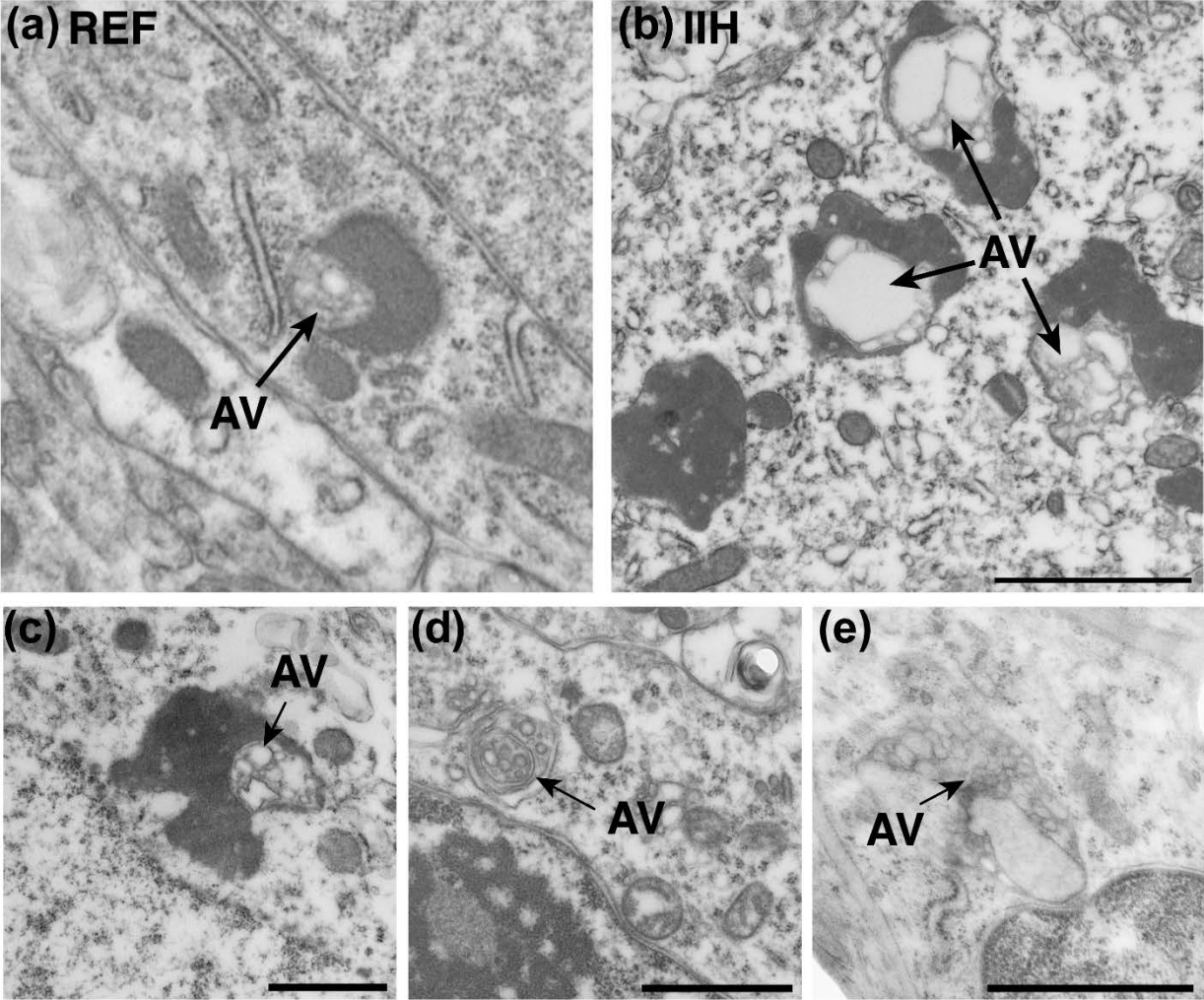
(a) Normal mitochondria (NM) with electron dense mitochondria in a REF individual. Nuclear membrane (N) indicated by black arrowheads. (b) Pathological mitochondria (PM) in an IIH case shown as light and less electron dense, with less intact matrix cristae, and irregular shape and a swollen appearance. (c) Pathological mitochondria (PM) are engulfed by non-fused autophagic vacuoles (AVs). Clustered mitochondria (CM) with less electron dense cristae in soma of IIH. (d) Clustered mitochondria (CM) in the soma of IIH. Magnifications: a-b) 16500 x, scale bar 1 μ m; c) 11500 x, scale bar 2 μ m; d) 9900 x, scale bar 2 μ m.

Suppl. Fig. 5. Clustered mitochondria in neuronal soma of IIH subjects



(a-d) Examples of clustered mitochondria (CM) in neuronal soma of IIH subjects. Clustered mitochondria can be seen as aggregates of mitochondria of variables size. Nuclear membrane of nucleus (N) indicated by black arrowheads. Clustered mitochondria are considered indicative of defective mitophagy. Magnifications: a) 9900 x, scale bar 2 μ m; b) 11500 x, scale bar 2 μ m; c-d) 16500 x, scale bar 1 μ m.

Suppl. Fig. 6. Examples of autophagic vacuoles in REF and IIH



Examples of autophagic vacuoles (AV) from (a) a REF individual and (b-e) IIH individuals. Autophagic vacuoles were observed in 2/9 (22%) REF individuals and in 4/8 (50%) IIH patients (non-significant, Chi square test). Magnifications: a-b) 11500 x, scale bar 2 μ m; c-d) 16500 x, scale bar 1 μ m; e) 26500 x, scale bar 500 nm.