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Omega 3 fatty acid ameliorate the puromycin induced podocyte injury.

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Objectives:

Podocyte injury are activation of autophagy, including mitophagy, is considered to be an important factor in podocyte injury. Recent our study revealed that omega 3 increased autophagic flux in acute kidney injury models. In this work, we identified the role of omega-3 in autophagy in the puromycin-induced podocyte injury model.

Methods:

we used the immortalized mice podocytes. Puromycin was treated in podocyte by dose and time. Omega 3 (EPA, DHA) were treated in podocyte with vehicle or puromycin by dose and time. Autophagic markers are evaluated. Oxidative stress and autophagic markers and cytoskeleton stains were evaluated.

Results:

Puromycin treatment increased the stress fiber(f-actin). Omega 3 treatment improved the f-actin fragmentation in puromycin treated podocytes. Omega 3 treatment Box/Bcl2 ration in puromycin treated podocytes. Puromcyin treatement increased the LC3 in immortalized podocytes.However, omega 3 treatment increased the LC3 in puromycin treated podocytes, compared to vehicle treated podocytes. p62 was decreased in both omega 3 and vehicle treated puromycin injured podocytes.

Conclusions:

Omega 3 amerliorates the puromycin induced podocyte injury.