

## 糖尿病治療藥物會影響肌少症嗎？

### **Do anti-hyperglycemic agents have an impact on sarcopenia ?**

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Sarcopenia is a condition characterized by progressive and generalized loss of skeletal muscle mass and function. It is defined as low muscle function (walking speed or grip strength) in the presence of low muscle mass. Sarcopenia is primarily a disease of the elderly and is associated with increased risks of falls and fractures, mobility disorders, disabilities, complications, infection, metabolic disorders, poor quality of life, and mortality. Several studies have also shown that T2DM patients exhibited greater loss of muscle mass, strength, and functional capacity with aging than non-T2DM individuals. T2DM is associated with an elevated risk of sarcopenia and pre-sarcopenia.

The skeletal muscle atrophy and sarcopenia are negative prognostic factors in the treatment of the diabetic aged-population. The association between diabetes and loss of muscle mass and strength is known but is not entirely known how antidiabetic agents influence this association. Insulin therapy stimulates protein anabolism. The insulin- sensitizer glitazones are promising agents against atrophy but the un-favorable benefit/risk profile limits their use. Metformin is an AMPK agonist potentiating insulin actions in human muscle. The AMPK agonists may also have the potential to induce atrophy. The GLP-1 and incretins showed beneficial effects in skeletal muscle but their effects on the age-dependent muscle atrophy in human and animals are not known. The novel sodium glucose co-transporter inhibitors may not have been recognized as drug-induced atrophic/anti-atrophic effects. Future clinical studies will be needed to investigate the effects of anti-diabetic agents on the sarcopenia