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ABSTRACT BOOK

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1.1. ORAL PRESENTATIONS

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➢ **ORAL PRESENTATION**

Investigation of the effect of beta-glucan and fucoxanthin on oxidative parameters in cerulein induced acute pancreatitis rat model

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Abstract

In this study, theraupatic effects of fucoxanthin, beta glucan and their combination was investigated in a cerulein-induced acute pancreatitis rat model. Male Wistar rats (n=32) were received four times cerulein (20 µg/kg/hr, intraperitonally) injection with an hour interval (Acute pancreatitis; AP). AP rats were treated with vehicle olive oil, beta glucan (BG; 40 mg/kg/PO), fucoxanthin (FX;40 mg/kg/PO) or beta glucan (BG; 40 mg/kg/PO) + fucoxanthin (FX;40 mg/kg/PO) administered for 3 days before first cerulein injection. Vehicle, astaxanthin or astaxanthin+GW6471 (ATX+GW) were administered after the first cerulein injection. At the 7th hour following the final injection, rats were sacrificed with cardiac puncture under anesthesia. The pancreatic tissue was collected and were used for the determination of malondialdehyde (MDA), glutathione (GSH), myelopreoxidase activity. Serum amylase, the lipase were measured. One way ANOVA and post-hoc Tukey was performed for statistical analyses. Amylase, lipase, MDA and MPO levels are significantly elevated in vehicle treated AP group while GSH was decreased ($p<0.001$). Amylase depressed more significantly ($p<0,001$) in beta glucan group compared to fucoxanthin group ($p<0,01$). GSH elevation is also more significant in beta glucan group ($p<0.001$). Beta glucan+fucoxanthin group showed less significant elevation in GSH ($p<0,01$) and depression in amylase ($p<0.05$) and lipase ($p<0.01$) as to beta glucan- treated and fucoxanthin-treated groups. Beta glucan treatment is similar to fucoxanthin treatment while beta glucan has more powerful effect on GSH. This study reveals that beta glucan only or fucoxanthin only is more effective treatment than combined therapy.

Keywords: Fucoxanthin, Beta glucan, Acute pancreatitis

➢ **ORAL PRESENTATION**

Serulein ile oluşturulan sıçan akut pankreatit modelinde fukoksantin ve beta glukanın oksidatif belirteçler üzerine etkisinin incelenmesi

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Özet

Bu çalışmada serulein ile oluşturulan sıçan akut pankreatit (AP) modelinde bir fukoksantin (Fuko) ve beta glukan tedavisinin ve kombinasyonlarının tedavi edici etkisinin incelenmesi amaçlanmıştır.

Etik onay sonrası erkek Wistar albino sıçanlara birer saat ara ile dört kez bir kolesistokinin analoğu olan serulein (20 µg/kg)'in intraperitonal enjeksiyonu ile AP modeli oluşturuldu (n=32). İlk serulein enjeksiyonundan 3 gün önce başlamak üzere AP'li sıçanlara zeytinyağı, Beta glukan (40 mg/kg), Fukoksantin (40 mg/kg) ve Fukoksantin + Beta glukan (40 mg/kg ve 40mg/kg) oragastrik gavaj ile 3 gün boyunca uygulandı. Son serulein enjeksiyonundan 7 saat sonra sıçanlar anestezi altında (50mg/kg, sodyum pentobarbital) kardiyak ponksiyon ile sakrifiye edildi. Pankreas dokuları ve kan serum örnekleri alındı. Kan serum örneklerinde amilaz, lipaz düzeyleri incelendi. Alınan pankreas dokularında lipid peroksidasyonunun göstergesi olan malondialdehit (MDA), antioksidan molekül glutatyon (GSH) ve dokuya nötrofil infiltrasyonunun göstergesi olan miyeloperoksidaz (MPO), düzeyleri tayin edildi. Veriler tek yönlü ANOVA ve post-hoc Tukey testi ile Graphpad Prism v.7. programında istatistiksel olarak analiz edildi. Amilaz, lipaz, MDA ve MPO seviyeleri yalnızca taşıyıcı verilen AP grubunda anlamlı olarak artarken GSH azalmıştır ($p<0,001$). Amilaz beta glukan ile tedavi edilen grupta fukosantin ile tedavi edilen gruba göre ($p<0,01$) daha anlamlı bir düşüş göstermiştir ($p<0,001$). GSH düzeyleri de beta glukan grubunda daha anlamlıdır ($p<0,001$). Beta glucan+fukosantin grubunda GSH'taki artış ($p<0,01$) ile amilaz ($p<0,05$) ve lipaz ($p<0,01$)'taki düşüş tek başına beta glukan ve fukosantin gruplarına göre daha az anlamlıdır. Tek başına beta glukan tedavisi, tek başına fukoksantin tedavisine benzer ama GSH üzerinde daha güçlü etki göstermektedir. Çalışma ajanların tek başına kullanımının daha etkili olduğuna işaret etmektedir.

Anahtar Kelimeler: Fukoksanthin, Beta glukan, Akut pankreatit