AKT inhibitor ARQ 092 and sorafenib additively inhibit progression of hepatocellular carcinoma and improve immune system in cirrhotic rat model

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INTRODUCTION
- Hepatocellular carcinoma is developed on a background of cirrhosis in 90% of the cases.
- PI3K/AKT/mTOR pathway is activated in >50% of the HCC cases and in fibrogenesis.
- Only one approved drug in advanced cases: sorafenib.

RESULTS

Antitumor effect
- Tumor progression assessed by MRI

Antiangiogenic effect
- Number and size of tumors on liver surface

Antifibrotic effect
- Pathway analysis

Cell proliferation in tumor tissue
- Western blot

Cell proliferation in liver tissue
- qPCR

TREATMENT PROTOCOL

T0: 14 weeks DEN-injections
T1: 6 weeks
T2: 5 days ON/9 days OFF

Effect on circulating immune system

Effect on liver immune system

CONCLUSIONS
Combination of Sorafenib and ARQ 092 exerted additive effect in controlling tumor progression, reduced angiogenesis and liver fibrosis, and improved immune response in blood and liver.

Our results confirm the importance of targeting AKT in hepatocellular carcinoma.

CONTACT INFORMATION

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