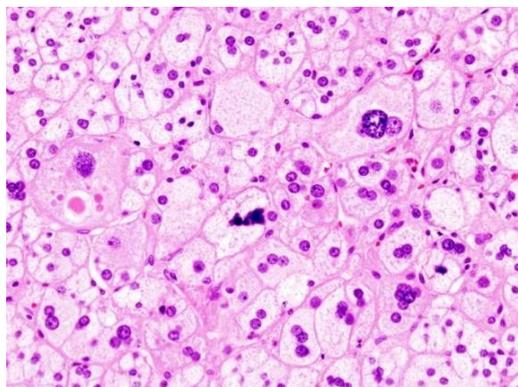


Gene signature for predicting progression and prognosis of adrenocortical carcinoma



Gene signature biomarker for diagnosing the progression and prognosis of adrenocortical carcinoma

Tech ID

21-040

Inventors

X. Lin

A. Kapoor

Y. Gu

D. Tang

Patent Status

US provisional filed

Stage of Research

Proof of principle data available.

Contact

Amy Hector

Business Development Officer

905-525-9140 ext. 28642

hectoraj@mcmaster.ca

<http://milo.mcmaster.ca>

Abstract

Adrenocortical carcinoma (ACC) is an aggressive endocrine carcinoma with a 5-year survival rate of < 50% [1]. Surgical resection is the only curative treatment, but 50-80% of patients experience relapse often with concurrent metastasis [2]. Despite being an aggressive carcinoma, ACC has variable prognosis with some tumors not recurring or progress slowly to metastasis. Effective assessment of ACC relapse (progression) and fatality risks is thus critical to patient or tumor-specific treatment. However, effective risk stratification remains challenging in ACC, which is even more difficult considering ACC is an orphan disease with annual incidence of 1-2 cases/million [3]. Therefore, a method to effectively diagnose patients with high risk of metastasis and lethal disease is needed.

Researchers at McMaster have developed a novel multigene signature panel that robustly predicts ACC prognosis and progression.

Applications

- Clinical applications in assessing ACC risk of metastasis, relapse and fatality

Advantages

- Current methods for accurately diagnosing ACC prognosis rely on physical and clinical features, which lack molecular knowledge that the current multigene panel addresses.
- Construction of this multigene panel was done through a systematic approach (i.e. not relying on clinical features), allowing for the assessment of ACC with a high level of precision, which is essential to optimize treatment regime for individual patients.

References:

1. Ettaieb M, Kerkhofs T, van Engeland M and Haak H. Past, Present and Future of Epigenetics in Adrenocortical Carcinoma. *Cancers (Basel)*. 2020; 12.
2. Gonzalez RJ, Shapiro S, Sarlis N, et al. Laparoscopic resection of adrenal cortical carcinoma: a cautionary note. *Surgery*. 2005; 138: 1078-85; discussion 85-6
3. Sharma E, Dahal S, Sharma P, et al. The Characteristics and Trends in Adrenocortical Carcinoma: A United States Population Based Study. *J Clin Med Res*. 2018; 10: 636-40.

Image obtained from:

https://commons.wikimedia.org/wiki/File:Adrenal_CorticalAdenoma_SpironolactoneBodies_MP_PA.JPG