Seminars in Zoophysiology at Aarhus University

Epigenetic Inheritance of Metabolic Dysfunction

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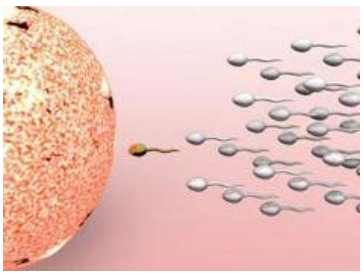
Obesity is a heritable disorder, with children of obese fathers at higher risk of developing obesity. Environmental factors such as diet and sedentarity have an epigenetic influence on somatic tissues, but the contribution of these factors to the establishment of epigenetic patterns in human gametes is unknown. Thus, we hypothesized that dietary factors can remodel the epigenetic signature of spermatozoa.

We profiled the epigenome of sperm from morbidly obese men before and after a gastric bypass, as well as rats subjected to a high fat diet. Our data provide evidence that the epigenome of spermatozoa can dynamically change under environmental pressure, and provide new insight into the manner in which obesity may propagate metabolic dysfunction to the next generation.



Friday May 8th at 10.15
coffee room at Zoophysiology, building 1131