Effet de la castration chirurgicale et de l'immunocastration sur l'utilisation postprandiale des nutriments chez le porc mâle

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Influence of surgical castration and immune castration on post meal nutrient utilization in male pigs

Rearing of entire males or vaccination of male pigs to reduce boar taint are two alternatives to surgical castration. Male pigs exhibit higher growth performance and feed efficiency than castrated pigs. Late immunocastration by immunization against gonadotrophin-releasing hormone (GnRH) is a relevant strategy to maintain growth performance and prevent boar taint. Despite these large differences between entire males and castrated pigs, the mechanism involved in these differences has been poorly investigated. The current study was undertaken to evaluate the metabolic and hormonal response to a test meal (n=6 per group), of early surgically castrated (MC) and late immunocastrated (IC) pigs compared with entire male pigs (ME). Three test meals were performed at 16, 18 and 20 weeks of age with the first period being before the decrease in testicular hormones, the other periods being during and after the decrease in testicular hormones in IC pigs. On each test day, blood samples were collected prior to the test meal (400 g) and for 4 hours after the test meal. Our results show differences in glycaemia and uremia profiles between ME, MC and IC pigs. Glucose profiles were affected by immunocastration much earlier than urea and amino acid profiles, suggesting that IC kept the advantages of ME in terms of nitrogen metabolism during the experimental period.