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Adiponectin, Leptin, IGF1 and TNFα serum biomarkers for non-invasive diagnosis of colorectal adenoma

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Background and Aim: The potential role of Adiponectin, Leptin, IGF1 and TNFα as biomarkers in colorectal adenoma is not clear. Therefore, we aimed to investigate the blood serum levels of these biomarkers in colorectal adenoma.

Method: The case-control study consisted of serum from 180 African American patients with colon adenoma (cases) and 198 healthy individuals (controls) at Howard University Hospital. We used ELISA for Adiponectin, Leptin, IGF1 and TNFα detection and quantification. Statistical analysis was performed by t-test and multivariate logistic regression.

Results: The respective differences in median Leptin, Adiponectin, IGF1 and TNFα levels between control and case groups (13.9 vs. 16.4), (11.3 vs. 46.0), (4.5 vs. 12.9) and (71.4 vs. 130.8) were statistically significant ($p<0.05$). In a multivariate model, the odds ratio (ORs) for Adiponectin, TNFα and IGF1 were 2.0 (95% CI=1.6–2.5; $P<0.001$), 1.5 (95% CI=1.5– 2.0; P 0.004) and 1.6 (95% CI=1.3–2.0; $P< 0.001$), respectively. There was a positive correlation between serum Adiponectin and IGF1 concentrations with age ($r=0.17$, $P< 0.001$ and $r=0.13$, $P=0.009$), TNFα, IGF1 and Leptin concentration with Body Mass Index (BMI) ($r=0.44$, $P< 0.001$; $r=0.11$, $P=0.03$ and $r = 0.48$, $P<0.001$), respectively. Also, there was a negative correlation between Adiponectin and Leptin concentration with BMI ($r=-0.40$, $P<0.001$ and), respectively.

Conclusion: These data support the hypothesis that Adiponectin, IGF1 and TNFα high level are increasing the risk of colon adenoma and can be applied for colorectal adenomas risk assessment.

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Evaluation of the impact of pre and post-transplant metabolic derangements on the neurological complications following liver transplantation

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Neurologic complications after liver transplantation are a major source of morbidity and mortality and proper prediction for those at risk may help in improving the outcome. The results of our study showed that severity of end stage liver failure prior to transplantation might be the most common risk factor for the development of post-transplant neurological complications and careful evaluation of other risk factors may be required for those patients in order to decrease the incidence of complications. Still the use of tacrolimus is associated with risk of neurological complications and reduction or discontinuation of tacrolimus lead to improvement of neurological complications. According to our study, electrolytes and metabolic derangements are not risk factors for development of neurological complications. Although, the risk of neurological complications in our series is high but there was no impact on the survival.

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