

7、30秒と変えて組織凝固の程度を病理検討した。②高周波出力(30W)を固定して高周波Bipolar止血鉗子で豚の胃を把持せず開いて押し当てた状態で高周波通電時間を1、3、5、7、30秒と変えて組織凝固の程度を病理検討した。③高周波出力(30W)を固定して高周波HOT BIOPSY鉗子で豚の胃を把持して高周波通電時間を1、3、5、7、30秒と変えて組織凝固の程度を病理検討した。

【結果】①垂直方向への凝固の影響は5秒以内までは粘膜下層に止まりそれ以上通電しても変化がない傾向がみられた。②垂直方向への凝固の影響は5秒以内までは粘膜下層に止まりそれ以上通電してもあまり変化がない傾向がみられ水平方向では鉗子のカップ間だけに熱の影響がみられた。③時間とともに水平方向、垂直方向に熱の影響があり、7秒以上では粘膜筋板から全層にかけて高度熱変性し漿膜下の組織も一部侵襲あった。

【まとめ】高周波Bipolar止血鉗子は高周波HOT BIOPSY鉗子に比べ組織の障害が少ない。また、Bipolar止血鉗子を開いた状態での止血法を検討し、高周波Bipolar止血鉗子の欠点であったピンポイントで把持しなければ止血効果がないという欠点が1つ克服されたとも考えられる。Bipolar止血法は安全性、簡便などの点からも安心して施行でき有用性が高くその将来を大いに期待して良いものと思われる。

P1-25.

Enteral supplementation enriched with glutamine, fiber, and oligosaccharide prevents gut translocation in bacterial overgrowth model

(大学院四年・救急医学)

○東 彦弘

(救急医学)

織田 順、本間 宙、佐々木博一

久村 正樹、三島 史朗、行岡 哲男

(八王子・救命救急センター)

太田 祥一

Background: Normal gut flora plays an important role in the intestinal mucosal barrier function under various critical conditions. The flora may alter after severe insult, such as trauma and shock. Enteral nutrition should preserve the gut environment, however, fully

support is usually difficult for severe ill patients because of impaired gastrointestinal motility. Currently, we have commercial enteral supplementation products GFO® enriched with glutamine, dietary fiber, and oligosaccharide in Japan. This study examines the hypothesis that the enteral supplementation ameliorates gut injury induced by a bacterial overgrowth model, even in small volumes and quantities.

Materials and methods: Bulb/c mice received antibiotics (4 mg/ml of streptomycin) in their drinking water for 4 days to kill the normal gut flora following which they were orally inoculated with a streptomycin-resistant strain of *Escherichia coli* (*E. coli*), known as *E. coli* C-25. The mice, which were, administered bacterial monoassociation were received 0.5 ml of GFO twice daily (GFO group) or 10 % of glucose solution (GLU group). Unsupplemented drinking water, whose gut flora were normal were used for control animals (control). The mice were sacrificed and their mesenteric lymph nodes complex (MLNs) were harvested and processed for test of the bacterial translocation. The cecal population levels of bacteria, ileum histology were also examined.

RESULTS: The incidence and magnitude of bacterial translocation to the MLNs in the GLU group were higher than those of the control significantly ($p < 0.01$, respectively). Treatment with GFO prevented the bacterial translocation although animals in the GFO group had same level of the cecal bacterial population. Histological findings of the ileum were not different between the GLU and GFO.

CONCLUSION: Glutamine, dietary fiber and oligosaccharides supplement prevented gut translocation for bacterial overgrowth even in small volumes and quantities. The intestinal histology could not explain the protective mechanisms of GFO. Further studies may be needed to elucidate the benefit of the partial enteral nutrition.