

English Abstract Session

2025年11月15日(土) 13:30 ~ 14:12 第10会場

[E5] English Abstract Session 5 Benign Disease & Early Cancer

Moderator: Fumio Ishida (Digestive disease center, Showa Medical University Northern Yokohama Hospital), Ravi Kiran (Global Center for Colorectal Surgery/IBD, Columbia University Medical Center)

[E5-1]

Neutrophil Biomarkers and EDCs for IBD Prediction via Bioinformatics & ML

Shihui Chen, Jianbao Zheng, Junhui Yu, Xuejun Sun (The First Affiliated Hospital of Xi'an Jiao Tong University)

[E5-2]

Factor related to mortality in colovesical fistula patients

Pohnpatchara Debsane, Siripong Sirikurnpiboon, Paiboon Jivapaisarnpong (Rajavithi hospital)

[E5-3]

The beneficial effect of plasma jet on hemorrhoids in mice by anti-inflammatory response

Zeshaan Yahaya Haji Mahmood¹, Xuejun Sun⁸, Jianbao Zheng⁷ (1. Zeshaan Yahaya Haji Mahmood, 2. Shibo Hu, 3. Zepeng Dong, 4. Junhui Yu, 5. Dehui Xu, 6. Dingxin liu, 7. Jianbao Zheng, 8. Xuejun Sun)

[E5-4]

Effectiveness of Flavonoids in Postoperative Pain and Wet Anus After Hemorrhoidectomy

Waranthorn Somjinda, Siripong Sirikurnpiboon (Department of Surgery, Rajavithi Hospital)

[E5-5]

Ligation of the Intersphincteric Fistula Tract (LIFT): Technical Refinements

Aitsariya Mongkhonsupphawan, Woramin Riansuwan (Colorectal Surgery Unit, Department of surgery, Faculty of Medicine Siriraj Hospital, Mahidol University)

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[E5-1] Neutrophil Biomarkers and EDCs for IBD Prediction via Bioinformatics & ML

Shihui Chen, Jianbao Zheng, Junhui Yu, Xuejun Sun (The First Affiliated Hospital of Xi'an Jiao Tong University)

This study investigates neutrophil-associated genes in inflammatory bowel disease (IBD) pathogenesis, identifying diagnostic biomarkers and linking key genes to endocrine-disrupting chemicals (EDCs). Utilizing four IBD datasets, neutrophil infiltration differences were analyzed between IBD and controls. Differential expression analysis revealed 496 DEGs, and WGCNA identified 182 neutrophil-related hub genes. Machine learning (LASSO/SVM-RFE) prioritized four signature genes (CHI3L1, IL6, PTGS2, TREM1) from 32 candidates, validated via Nomogram for diagnostic efficacy. Transcriptional regulatory networks highlighted upstream regulators. Leveraging these genes, 33 potential IBD-associated EDCs (e.g., bisphenols, phthalates) were identified. RT-qPCR confirmed elevated expression of signature genes in IBD patients versus controls. Findings reveal neutrophil-driven mechanisms in IBD, propose CHI3L1, IL6, PTGS2, and TREM1 as novel diagnostic biomarkers, and establish gene-EDC connections, offering insights for clinical management and environmental risk mitigation.

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[E5-2] Factor related to mortality in colovesical fistula patients

Pohnpatchara Debsane, Siripong Sirikurnpiboon, Paiboon Jivapaisarnpong (Rajavithi hospital)

Aim The study aimed to analyze the factors related to mortality in patients with colovesical fistula (CVF), focusing on the impact of underlying causes, severity of symptoms, and surgical approaches.

Methods

A retrospective review was conducted on CVF cases over a 20-year period. Clinical and demographic data were analyzed using statistical tests, including the Student's t-test, Mann-Whitney U test, Chi-squared test, and Fisher's exact test ($p < 0.05$ was considered significant). Disease severity was assessed with the Sequential Organ Failure Assessment (SOFA) score. Surgical treatments included one-stage operations, multistage operations, and palliative ostomies.

Results

Diverticulitis was the most common etiology (42.5%), followed by colorectal cancer (31.5%) and radiation (12.7%). Mortality was linked to colorectal cancer and radiation cases, with septic shock and SOFA scores above 7 being significant risk factors.

No mortality occurred in the one-stage operation group, especially among patients with diverticulitis. In contrast, the palliative ostomy group showed the highest mortality rates (41.9%).

Multistage operations and ostomies were more common in severe cases with high SOFA scores or complex etiologies.

Conclusion

One-stage operations are safe and effective for CVF caused by diverticulitis, particularly in male patients. Mortality risk is elevated in cases involving colorectal cancer and radiation, especially with SOFA scores > 7 . For severely ill patients, palliative ostomy or staged operations should be prioritized to enhance safety.

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[E5-3] The beneficial effect of plasma jet on hemorrhoids in mice by anti-inflammatory response

Zeshaan Yahaya Haji Mahmood¹, Xuejun Sun⁸, Jianbao Zheng⁷ (1. Zeshaan Yahaya Haji Mahmood, 2. Shibo Hu, 3. Zepeng Dong, 4. Junhui Yu, 5. Dehui Xu, 6. Dingxin liu, 7. Jianbao Zheng, 8. Xuejun Sun)

Aim: To overcome hemorrhoids treatments limitations, we explored the effect of plasma jet (He gas) on external hemorrhoids. **Methods:** C57 black male mice, 6 to 8 weeks, randomly selected, weight and external hemorrhoid model prepared; divided into normal control, positive control, pilex, plasma 30secs, plasma 1min and combined plasma 1min pilex group. Intergroup comparison were performed after induction to study: a. biochemical, hemorrhoidal and histological parameters; b. vascular permeability by Evans blue extravasation. Mice ear edema model was established to study the swelling response and also demonstrated plasma jet effect on pH and in gas and liquid phase. **Results:** 65 % acetic acid induced hemorrhoids; plasma jet for 30 secs to 1 min showed therapeutic potential; including generation of active particle species ROS in gas and liquid phase such as hydroxyl ions causing inactivation of the bacteria. Secondly, plasma jet 1 min showed significant tissue healing and regeneration similar to the pilex evident by significant reduction of anorectal coefficients, macroscopic severity score, serum TNFalpha and IL6 levels, pain scores, and improved histomorphological scores; combined plasma 1min pilex had superlative effect. The Evans blue extravasation showed significant reduction in vascular permeability and mice ear edema model showed plasma jet was significant in reducing the swelling evident by decreased swelling degree and increased swelling inhibition rate. **Conclusion:** Plasma jet can significantly promote tissue healing, reduce swelling and inflammatory markers. The treatment process is painless. Therefore, plasma jet can be beneficial for the treatment of external hemorrhoids in mice through antiinflammatory and swelling reduction mechanism.

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[E5-4] Effectiveness of Flavonoids in Postoperative Pain and Wet Anus After Hemorrhoidectomy

Waranthorn Somjinda, Siripong Sirikurnpiboon (Department of Surgery, Rajavithi Hospital)

Background: Hemorrhoidectomy is the standard treatment for symptomatic or high-grade hemorrhoids; however, complications such as postoperative pain, wound dehiscence, and wet anus are common. Wet anus significantly impacts patient comfort and hygiene but remains understudied.

Objective: To evaluate the effectiveness of flavonoids in reducing postoperative pain and the incidence of wet anus.

Methods: A retrospective cohort study was conducted in 180 patients who underwent hemorrhoidectomy between 2017 and 2022. Patients were divided into a flavonoid group (n = 91) and a control group (n = 89). Postoperative outcomes including pain scores, wet anus, pruritus ani, acetaminophen consumption, and complications were analyzed.

Results: The incidence of wet anus was significantly lower in the flavonoid group (18.7% vs. 67.4%, $p < 0.001$), as was pruritus ani (18.7% vs. 56.2%, $p < 0.001$). Pain scores at 6 hours postoperatively were similar (7.22 vs. 7.25, $p = 0.891$), but the next-morning scores were modestly lower in the flavonoid group (6.11 vs. 6.73, $p = 0.017$). Acetaminophen consumption was significantly lower in the flavonoid group (1069.6 mg vs. 1631.6 mg, $p < 0.001$). Wound dehiscence was also less frequent (16.5% vs. 25.8%, $p = 0.045$; OR = 0.473, 95% CI: 0.2260.993). Conclusion: Flavonoids significantly reduced the incidence of wet anus and pruritus ani, and may lower the need for analgesics and wound complications. These findings support the adjunctive use of flavonoids in postoperative care following hemorrhoidectomy.

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[E5-5] Ligation of the Intersphincteric Fistula Tract (LIFT): Technical Refinements

Aitsariya Mongkhonsupphawan, Woramin Riansuwan (Colorectal Surgery Unit, Department of surgery, Faculty of Medicine Siriraj Hospital, Mahidol University)

Fistula-in-ano is a common challenging condition in proctology, requiring precise surgical management to minimize recurrence and preserve sphincter function. The Ligation of the Intersphincteric Fistula Tract (LIFT) procedure has developed as a sphincter-sparing technique with favorable outcomes.

We present a video aiming to educate surgeons with practical points to refine their LIFT technique and improve patient outcomes. This video provides a step-by-step demonstration of the LIFT procedure, highlighting essential tips and tricks to optimize success. Significant steps include patient selection, preoperative assessment, intraoperative techniques such as proper tract identification and secure ligation, and postoperative care.

By mastering these refinements, surgeons can optimize results, reduce recurrence, and improve patient quality of life.