

4<sup>th</sup> International Conference on **Anesthesia**  
&  
8<sup>th</sup> Edition of International Conference and Exhibition on  
**Surgery and Transplantation**

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**Changes of bowel sound parameters in patients receiving intravenous sedation for gastroscopy and colonoscopy: an observational study**

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Electronic stethoscopes (3M™ Littmann® Model 3100) with wireless transmit using bluetooth® technology was used to receive bowel sounds. A specific analyzer of windows program written in microsoft C# (named Chiao Tung Chi Mei bowel sound analyzer; CCBA) were created to record, save, play back, view and analyze bowel sounds. Other than frequency, CCBA provides bowel sound parameters including sound duration, sound to sound interval, sound index and central frequency. The observational study is to examine the influences of intravenous sedation on the bowel sound parameters in patients receiving gastroscopy and colonoscopy. Bowel sounds of 32 subjects receiving intravenous sedation for gastroscopy and colonoscopy were recorded. Five records were recorded for each subject including before sedation, 1 min after sedation as well as 5, 15 and 30 min in post-anesthetic room (PAR). ANOVA was used for to test differences between five means. We discovered that significant changes of four bowel sound parameters after sedation including sound duration, sound to sound interval, sound index and central frequency were found to compare that of before sedation. However, there were no significant changes in energy of each event of bowel sounds after sedation to compare that of before sedation ( $P = 0.123$ ). Electronic stethoscopes with wireless transmit and CCBA was used for the assessment on the changes of bowel sound parameters after intravenous sedation compared to before intravenous sedation. CCBA provides more bowel sound parameters were compared for auscultatory findings by physicians. Further studies are needed to validate the sensitivity and specificity of CCBA in assessing bowel sound parameters.

**Recent Publications**

1. Ming-Jen Sheu, Ching-Chin Chuang, Kuan-Chih Tseng, Jen-yin Chen, Bor-Shyh Lin (2013) Enhancing bowel sounds by using higher-order-statistics-based radial basis function network. *IEEE Journal of biomedical and health informatics* 17:675-680.
2. Jen-yin Chen, Tain-Junn Cheng, Chia-Yu Chang, Kuo-Mao Lan, Shih-Feng Weng, Ming-Jen Sheu, Su-Feng Tseng and Miao-Lin Hu (2013) Increased incidence of herpes zoster in adult patients with peptic ulcer disease: a population-based cohort study. *International journal of epidemiology* 42:1873-1881.
3. Jen-Yin Chen, Kuo-Mao Lan, Ming-Jen Sheu, Su-Feng Tseng, Shih-Feng N G and Miao-Lin H U (2015) Peptic ulcer as a risk factor for postherpetic neuralgia in adult patients with herpes zoster. *J Med Virol.* 87:222-229.
4. Jen-Yin Chen, Li-Kai Wang, Ping-Hsun Feng, Chin-Chen Chu, Tain-Junn Cheng, Shih-Feng Weng, Su-Zhen Wu, Tsung-Hsueh Lu and Chia-Yu Chang (2015) Risk of shingles in adults with primary sjogren's syndrome and treatments: a nationwide population-based cohort study. *PLOS One.* 10(8):e0134930.
5. Yao-Tsung Lin, Kuo-Mao Lan, Li-Kai Wang, Chin-Chen Chu, Su-Zhen Wu, Chia-Yu Chang, Jen-Yin Chen (2016) Incidence, risk factors, and phenomenological characteristics of postoperative delirium in patients receiving intravenous patient-controlled analgesia: a prospective cohort study. *Neuropsychiatric Disease and Treatment* 13:3205-3212.

JOINT EVENT

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**Biography**

Jen-Yin Chen is specialized in anesthesia and pain management. She published several articles in the associations between nutrition and neuralgia. She has cooperated with Professor Lin and his students to create a specific analyzer of bowel sound to record, save, view and analyze bowel sounds since 2013. The bowel sound team wishes for analyzing the influence of anesthetics on intestinal peristalsis.

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**Notes:**