

Global Summit on

# ONCOLOGY & CANCER

May 25-27, 2017 Osaka, Japan

## Raman spectroscopy colorectal- Diagnostic accuracy of Raman spectroscopy for colorectal cancer: A meta-analysis

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**Background & Aim:** Raman Spectroscopy (RS) is a novel non-invasive diagnostic method for colorectal cancer. This work aims to systematically analyze the diagnostic performance of RS in contrast to biopsy in patients with colorectal lesions.

**Method:** We searched a wide range of databases for all relevant researches which assessed the diagnostic accuracy of RS in detecting colorectal lesions with no language and time limitation. The pooled weighted estimates of sensitivity, specificity and related indicators were calculated by Meta-Disc Version 1.4 and STATA 12.0 for diagnostic meta-analysis. The quality of included studies was assessed by the Quality Assessment of Diagnostic Accuracy Studies checklist 2. The Deeks' funnel plot asymmetry test was performed to evaluate publication bias.

**Results:** The search strategy produced 113 hits after duplicates removal and 14 articles were reviewed in this meta-analysis. A total of 1274 patients and 1660 lesions were assessed. Pooled weighted estimates of sensitivity and specificity of RS in diagnosing colorectal cancer were 0.87 (95% CI, 0.86-0.89) and 0.89 (95% CI, 0.88-0.90), respectively. The positive likelihood ratio and the negative likelihood ratio were 6.72 (95% CI, 4.72-9.58) and 0.14 (95% CI, 0.09-0.20), respectively. The pooled diagnostic odds ratio and overall area under the curve of RS in the diagnosis of colorectal cancer was 66.42 (95% CI, 32.90-134.08) and 0.9578. There was no significant publication bias ( $P=0.34$ ).

**Conclusion:** RS has considerable sensitivity and specificity in the evaluation of colorectal lesions. RS is a promising, reliable and non-invasive method for differential diagnosis of benign and malignant colorectal lesions.

### Biography

Chenjing Zhu is an Internee at the West China Hospital and is now doing research at State Key Laboratory of Biotherapy. She is capable of doing meta-analysis and insightful in many fields such as the potential use of contrast enhanced ultrasound in some kinds of malignant tumors. She is capable of setting up cecal ligation and puncture (CLP) model to detect acute endotoxemia and polymicrobial sepsis, lung metastasis model to detect CT26 colon cancer and 4T1 breast cancer, bleomycin-induced pulmonary fibrosis model, chronic inflammation model to explore cell senescence. She is proficient in using many bibliography and statistical management softwares.

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