中文題目:胃液檢測與病理組織判讀在檢測幽門螺旋桿菌感染的比較

英文題目: Comparison of gastric juice PCR test with Pathology in detecting Helicobacter pylori infection

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Background: Positive culture yield or urea breath test is the golden standards for diagnosis of helicobacter pylori infection. Besides, positive histological test and rapid urease test are also considered to confirm diagnosis for H.pylori infected patients. Although many infectious diseases can be proven from bacterial cultures, it is difficult to cultivate H.pylori bacterium in which the incubation period is at least 5 days and at the same time, a sufficient amount of bacteria is required to successfully cultivate the bacterium. Te sensitivity test of antibiotic to H.pylori bacterium can be performed, if cultivation is successful. Despite the high specificity of cultivation, the sensitivity of H.pylori culture in Taiwan is only 55.6% (Kuo et al., 2005). According to the data analyzed from KMUH gastroenterology, the sensitivity is only 62%. Most hospitals do not preform this test because of the low penentrance rate; H. pylori culture is only done when eradication fails twice. The tissues obtained for culture are collected by gastric biopsies only on certain location of the stomach. However, the specimens obtained from gastric juice provide a more extensive of the bacterium and a less invasive method. This study aimed to evaluate the accuracy of gastric juice to diagnosis H.pylori.

Material and Methods: The gastric juice from 277 patients was collected during panendoscopy. Following obtaining gastric juice sample, 6ml of the fluid was centrifuged at 12000rpm for 10 minutes. The supernatant was then discarded and 6ml of DMEM Eagle's medium was mixed with the precipitate. Extraction of the DNA was done within 1week and analyzed with polymerase chain reaction(PCR) or Restriction fragment length polymorphisms PCR. The method desribe above is called gastric juice sample test. We followed the instruction protocol of the DNeasy® Blood & Tissue kitQiagen，Germany）to collect the DNA of H.pyolri may be present in gastric juice content. NanoQuant plate（TECAN，Switzerland）was utilized to quantify the DNA. We use polymerase chain reaction or Restriction fragment length polymorphisms PCR to identify the presence of H. pylori bacterium, and also to analyze the sensitivity of antibiotics in addition to the polymorphism of CYP2C19 gene of the host.

Results: From the gastric samples of 277 patients, 150 patients were diagnosed as H.pylori infection, the other 127 patients were H.pylori negative. Using gastric juice as a diagnostic test for H.pylori, the sensitivity was 92.66%, specificity was 86.61%, positive predicate rate was 89.67%, negative predictive rate was 90.08% and the accuracy was 81.58%. Besides, when using culture for diagnosis, the sensitivity was 66%, specificity was 100%, positive predictive rate was 100%, negative predictive rate was 71.34% and accuracy was 81.58%.

Conclusion: According to our study, we can quickly analyze if patient is infected with H.pylori by "gastric juice test". This study revealed that the sensitivity and accuracy were higher than bacterial cultures. The procedure is simple and the results quickly help clinicians to select the correct treatment for eradicate H.pylori. We recommend that gastric fluid can be collected during endoscopic examine, that can quickly evaluate the patient with H.pylori infection.