Picture Archive and Communication System (PACS) in the Detection of Fish Bone-An Animal Study

陳啓仁

Wang YC;Huang YC;Chang HY;Chang YL;Chen CJ;Wang PC

摘要

Abstract

OBJECTIVES: We have developed an animal model to investigate the feasibility of using a digital radiography picture archive and communication system (PACS) to identify fish bones. SUBJECTS AND METHODS: Bones from 21 species of freshwater and seawater fish were placed in the upper esophagus of a test pig. Digital radiographic images of the lateral neck were taken (60 kV, 200 mA, and 20 ms, 100 cm in distance). The images were interpreted by three radiologists. The chi(2) test, Kendall's coefficient of concordance, and the logistic regression model were applied for statistical analyses. RESULTS: Milkfish had the lowest visibility (33.3%) in PACS. There was a significant variation in the ratings of visibility among three radiologists ($P < 0.01$, Kendall's coefficient 0.75). Seawater vs freshwater category, bone length, and radiologist were significant factors that affected visibility. CONCLUSION: The sensitivity is 0.89. Images from seawater fish with long bones have better visibility. PACS is feasible in diagnosing upper esophagus fish bones, but the physician's knowledge of local varieties of fish prior to image study is equally important.