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Feasibility of a low cost smart phone endoscope for ENT video endoscopy

Pranab Malla Baruah

Dr N M B Baruah Nursing Home, India

Statement of the Problem: Conventional endoscope is costly (cost range 21,000 Euro) and hence not freely available and becomes costly for patients and unaffordable to many. The need of the hour is to develop a very cheap endoscope which at least fulfills almost all the features of conventional endoscope.

Aim: Aim of the study is to develop a smart phone based low cost video endoscope and also to assess its feasibility for ENT video endoscopy.

Methodology & Theoretical Orientation: This endoscope was made by attaching a led waterproof borescope endoscope inspection tube camera (cost 11.50 euro) with android phone. Clinical application was performed from April to July 2018. Transoral route was used under local anesthesia (10% xylocaine spray). The observation of the larynx and hypopharynx were performed during this period. These examinations were done for screening and follow-up for patients with oropharyngeal, hypopharyngeal and laryngeal pathology.

Findings: 20 patients were simultaneously evaluated by low cost video endoscope and state of the art KARL STORZ Image 1 Hub Hd Camera (Germany) using conventional endoscope as gold standard. The low cost video endoscope could distinguish

features of abnormal mucosal and vascular patterns surface characteristics of carcinomas were observed under a conventional light source. Nevertheless, the handling of this video endoscope was similar to that of popular ENT video endoscopes, and all patients tolerated its use well.

Conclusion & Significance: This new device may be a cheap easily available alternative for pharyngolaryngeal examination in ENT clinics and can help immensely those budding young enthusiastic ENT surgeons. Moreover, this endoscope can be used as disposable endoscope for immuno deficient patients.

Biography

Pranab Malla Baruah born in 05th August 1952 completed his MBBS – G.M.C. Hospital Ghy. on 1976 and MS in ENT - G.M.C. Hospital, Ghy. On 1980 followed by FCCP – New Delhi – 1985. Professionally he is a Senior ENT Surgeon at Dr. N.M.B. Baruah Nursing Home, Baruah Road, Nalbari, Assam, India – since 1981. Founder Director, North East Cancer Hospital & Research Institute, Jorabat, Assam, India. He has been an International Fellow-American Academy of Otolaryngology & Head & Neck Surgery – 2003 and also Fellow International College of Surgeons (FICS) – 2004. Member, British Academy of Head & Neck Oncology, London – 2010.

pranabbin1952@gmail.com