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Esophagitis: Aspects on bacteriology, pathophysiology and symptomatology

AKADEMISK AVHANDLING

Som för avläggande av medicine doktorsexamen vid Sahlgrenska akademin, Göteborgs universitet kommer att offentligen försvaras i hörsal Arvid Carlsson, Academicum, Medicinaregatan 3, Göteborg, fredagen den 8 juni klockan 09:00

av

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Fakultetsopponent:

Professor Bodil Ohlsson

Avd för internmedicin, Inst för kliniska vetenskaper, Lunds Universtitet

Avhandlingen baseras på följande delarbeten:

I. Norder Grusell E, Dahlén G, Ruth M, Ny L, Quiding-Järbrink M, Bergquist H, Bove M.
Bacterial flora of the human oral cavity, and the upper and lower esophagus.
Dis Esophagus 2013; Jan 26(1): 84-90.

II. Norder Grusell E, Dahlén G, Ruth M, Bergquist H, Bove M.
The cultivable bacterial flora of the esophagus in subjects with esophagitis.
Scand J Gastroenterol. 2018; Apr. Epub ahead of print.

III. Norder Grusell E, Mjörnheim A-C, Finizia C, Ruth M, Bergquist H.
The diagnostic value of GerdQ in subjects with atypical symptoms of gastroesophageal reflux disease.
Submitted.

IV. Larsson H, Norder Grusell E, Tegtmeyer B, Ruth M, Bergquist H, Bove M.
Grade of esosinophilia versus symptoms in patients with dysphagia and esophageal eosinophilia.
Dis Esophagus. 2016; Dec 29(8): 971-976.

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ABSTRACT

Gastroesophageal reflux disease (GERD) and eosinophilic esophagitis (EoE) are the two most common diseases causing inflammation of the esophagus, namely, esophagitis. GERD and EoE are different in many aspects, but shares histological similarities and may overlap in symptomatology.

Aims: The overall aim of this thesis was to investigate and compare different aspects of GERD and EoE including the pathophysiology, with a focus on bacteriology, and symptomatology. The esophageal bacteriological occurrence in subjects with GERD, EoE and in healthy volunteers (HV) was studied. The use of the GerdQ questionnaire in subjects with atypical symptoms of GERD as well as EoE was evaluated. The association between the grade of esophageal eosinophilia and symptoms/health-related quality of life (HRQL) was examined in subjects with active EoE.

Methods and results: Esophageal brush samples and biopsies from HV (n=40) as well as from subjects with GERD (n=17) and EoE (n=10) were collected and cultivated. Bacteria were generally present in low amounts in most subjects and were predominantly various streptococcal species (viridans streptococci). Subjects with EoE had a significantly more diverse cultivable esophageal bacterial flora than subjects with GERD and HV had. In subjects referred for 24-h pH monitoring for typical and/or atypical symptoms suggestive of GERD (n=646) the GerdQ questionnaire was filled out before the examination. Of these subjects 57% had atypical symptoms, and 58% had GERD according to the pH-metry ($GERD_{pH}$). GerdQ had a sensitivity and specificity for $GERD_{pH}$ of 62% and 74%, respectively, at a cut-off of 8. In subjects with active, untreated EoE (n=65) the esophageal eosinophil density was compared to the severity of disease according to symptoms/HRQL evaluated by questionnaires (Watson Dysphagia Scale, EORTC QLQ-OES18, SF-36). No correlation between these variables was found. However, subjects with concomitant bolus impaction had higher numbers of eosinophils in the proximal esophagus.

Conclusions: Subjects with EoE have a more diverse cultivable esophageal bacterial flora than subjects with GERD and HV have. GerdQ has a diagnostic value in a population including subjects with atypical main symptoms of GERD. No correlation between the grade of esophageal mucosal eosinophilia and symptoms or HRQL was found.

Keywords: gastroesophageal reflux disease, eosinophilic esophagitis, bacteria, microbiome, GerdQ, atypical symptoms, eosinophilia, quality of life

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