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Titel des Beitrags: Variability in the diagnosis of dysplasia in ulcerative colitis by dynamic telepathology.

Abstract: Telepathology (TP) is the practice of evaluating pathology cases by the digital transmission of diagnostic slides as either static pictures (static TP) or by a continuous flow of pictures from a robotic microscopy (dynamic TP). The diagnostic efficacy of dynamic TP-based consultation services has not been widely tested. Dysplasia arising in association with chronic ulcerative colitis (CUC) is, at present, the most important marker for an increased risk of malignancy in patients with this disease. However, the diagnosis of dysplasia suffers from a significant degree of intra- and interobserver variability which usually necessitates a second opinion prior to definitive treatment. Thus, it is often necessary to obtain expert consultation of potential dysplasia cases by dedicated gastrointestinal pathologists. The aim of this study was to evaluate the utility and interobserver variability of diagnosing dysplasia in CUC with the use of dynamic TP. Dynamic TP was used to evaluate digitalized images of 38 CUC cases with areas considered negative, indefinite, or positive for dysplasia (low or high grade) independently by seven pathologists. Subsequently, all cases were graded by each of the pathologists by light microscopic examination of the H&E-stained glass slides. The degree of intra- and interobserver variability was determined by Kappa statistics. Overall, there was a poor degree of
interobserver agreement (K=0.32) among the seven pathologists after analysis of the cases by
dynamic TP. The poorest level of agreement was in the indefinite and low-grade dysplasia categories,
whereas the highest level was in the negative and high-grade dysplasia categories. Grouping together
several diagnostic categories (for instance: Indefinite and low, or low- and high-grade dysplasia) had
no significant effect on the level of agreement. The degree of variability in interpretation of cases by
microscopic slide analysis was similar (K=0.35). After reviewing all the cases by microscopic analysis
of the glass slides, the diagnosis was changed in 51% of the observations; in the majority of these
(61%), the grade of dysplasia was decreased. In summary, the use of dynamic TP for consultation in
CUC-associated dysplasia has a poor level of interobserver agreement, but does not differ
significantly from that obtained by the evaluation of the cases by microscopic slide analysis.
Diagnoses rendered by dynamic TP tend to be of a higher grade compared to that obtained by
microscopic slide analysis. Thus, although dynamic TP may be used for the consultation of CUC
dysplasia cases, more specific criteria are needed in the general categorization of dysplasia in CUC.