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Abstract titel: The role of MLH1 in identifying minimal deviation dysplasia in sessile serrated lesions

Forfattere: Ida Skovgaard Christiansen[1], Peter Ingeholm[1], Louise Laurberg Klarskov[1]

Affiliations:
[1] Afdelingen for Patologi, Herlev Hospital, Herlev Danmark

Abstract text (max. 250 ord):

Background: A new entity of dysplasia, minimal deviation dysplasia (MDD), has been introduced in sessile serrated lesions (SSL).[1,2] The dysplastic changes are not easily recognized on HE-staining,[1,3] but loss of MLH1 expression is a marker of MDD.[1-3] However, the need for systematic MLH1-staining is unknown.
Method: MLH1-immunohistochemistry was performed prospectively as a supplement to HE-staining in a consecutive cohort of SSL without obvious morphological dysplasia. An unblinded pathologist reassessed all slides and foci with MLH1-loss were identified. Another pathologist, blinded to the MLH1-staining, reassessed the HE-staining of lesions with MLH1-loss (mixed with lesions without MLH1-loss) and foci believed to represent areas of MDD were identified.
Results: 107 lesions were included. In 11% (12/107) MLH1-loss was identified in a total of 40 foci (1-9 per lesion). Of these, 21 foci had MLH1-loss in full-crypt height and 19 foci only showed loss in parts of the crypts. In 10/12 lesions at least one focus with full-crypt loss was found. In foci with partial loss, morphological changes on HE were identified by the blinded pathologist in 11% (2/19) of cases and by the unblinded in 32% (6/19). In foci with full-crypt loss, morphological changes were identified by the blinded pathologist in 43% (9/21) of the cases and by the unblinded in 81% (17/21).
Conclusion: MLH1-loss can be multifocal and with partial or full-crypt loss. Full-crypt MLH1-loss more often is recognizable on HE. The significance of partial loss is unknown. Further knowledge is needed and pathologists should build experience with MLH1 staining in SSL.