MSH2 and *MLH1* testing

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DNA testing is recommended in families fulfilling at least "suspected HNPCC" criteria. After exclusion of FAP (characteristic FAP features include polyposis, congenital hypertrophy of the retinal pigment epithelium, cysts and osteomata of bones of the maxilla and mandible, desmoid tumours), immunohistochemical analyses (IHC) of *MLH1*, *MSH2* and *MSH6* expression in malignant tissues should be performed (absence of the protein may indicate the mutated gene).

The results of several studies performed in our centre characterised the frequencies and spectrum of *MSH2* and *MLH1* mutations in Poland [1]. Similarly to other populations, the most frequent causes of HNPCC in Poland are *MLH1* and *MSH2* mutations, constituting 90% of all mutations associated with this syndrome. MLPA detects 10% of these mutations. In over 60% of all HNPCC families recurrent mutations can be found. Thus after IHC, MLPA for *MSH2* and *MLH1* should be performed. Next, with MLPA negative, DNA tests searching for recurrent mutations, characteristic for the Polish population, should be applied. The last step should include DHPLC [2] and sequencing of the cases indicated by DHPLC results.

References

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