MMR pathway testing and reporting terminology for MMR immunohistochemistry in endometrial carcinoma - An audit of compliance to NICE diagnostics guidance DG42 and BAGP guidance.

Dr. Vidusha Ranathunga , Dr Izhar Bagwan, Dr. Ben Haagsma.

Department of Cellular Pathology, Royal Surrey NHS Foundation Trust ,Guildford,UK.

INTRODUCTION

- ✓ Screening for Lynch Syndrome is essential as endometrial carcinoma (EC) is the first malignancy in over 50% of affected cases.

OBJECTIVES

- ✓ This study evaluated compliance with NICE diagnostics guidance DG42 and assessed interpretation and reporting terminology for MMR immunohistochemistry in line with BAGP 2020 recommendations.
- ✓ Secondary objectives included determining the prevalence of MMR deficiencies and assessing concordance between pre-operative and post-operative EC diagnoses.

METHODOLOGY

- ✓ A total of 180 patients with EC managed at the Royal Surrey Hospital between January 2023 and June 2025 were included.
- ✓ Both curettage and hysterectomy specimens underwent MMR testing.

RESULTS

Total sample size	**180**	
Testing for Lynch syndrome done	**On all 180 cases**	
MMR IHC done	**90%,**	**162/180**
Molecular MSI done	**10% ,**	**18/180**
MMR IHC proficient	**75.95%,**	**123/162**
MLH1 and PMS 2 loss	**12.96%,**	**21/162**
MLH1 promoter region was methylated	**95.23%,**	**20/21**
MLH1 promoter region was not methylated	**4.76%,**	**1/21**
PMS2 loss	**6.17%,**	**10/162**
MSH2 and MSH6 loss	**2.46%,**	**4/162**
MSH6 loss	**2.46%,**	**4/162**
Microsatellite stable	**72.22%,**	**13/18**
Microsatellite instability high	**27.77%,**	**5/18**
MLH1 promoter region was methylated	**60%,**	**3/5**
MLH1 promoter region was not methylated.	**40%,**	**2/5**

Histological Type	Concordance (%)
Grade 1 Endometrioid Carcinoma	90.62%
Grade 2 Endometrioid Carcinoma	45.16%
Grade 3 Endometrioid Carcinoma	41.66%
Serous Carcinoma	63.15%
Clear Cell Carcinoma	40.00%
Carcinosarcoma	90.90%

CONCLUSION

- ✓ Excellent (100%) compliance with NICE DG42 and BAGP 2020 guidance was demonstrated.
- ✓ All cases with MMR deficiency were referred for further genetic evaluation, resulting in complete (100%) referral.
- ✓ Diagnostic concordance was highest in low-grade EC, highlighting the importance of comprehensive sampling for accurate histological assessment.
- ✓ Discordance was mainly due to high-grade tumours initially sampled as polyps or identification of higher-grade areas in resection specimens.

Key words: MMR , Endometrial carcinoma, DG42 guideline.