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ENDOMETRIAL CANCER : RETROSPECTIVE ANALYSIS

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TO ASCERTAIN THE EFFICACY OF MRI TO DETERMINE STAGING OF ENDOMETRIAL CANCER

DESIGN AND METHODS

A retrospective observational study conducted at Walsall Manor hospital gynaecology oncology department analysed endometrial cancer cases over 1 year

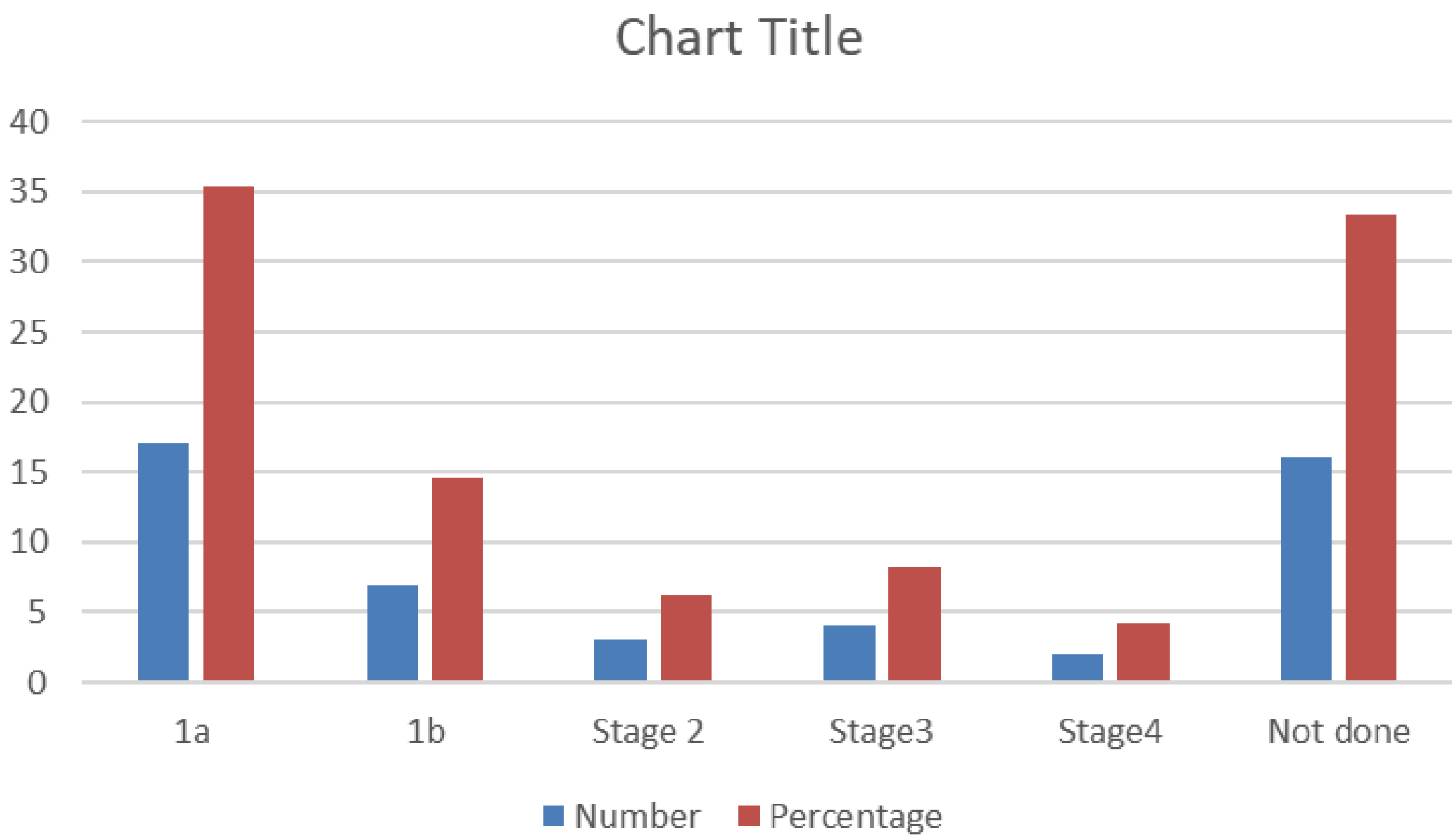
METHODS :
48 women aged 43-89 years diagnosed with endometrial cancer between 02/01/24 and 03/01/25

Parameters assessed included age, time from initial appointment to final diagnosis, type and location of surgery, surgical approach, adjuvant treatment, Pipelle biopsy results, MRI-estimated FIGO staging, CT imaging for distant disease, final histopathology staging and MMR status

OBJECTIVES

To ascertain the efficacy of MRI to determine stage of endometrial cancer in comparison to surgical staging

STAGE OF ENDOMETRIAL CANCER BASED ON HISTOLOGY



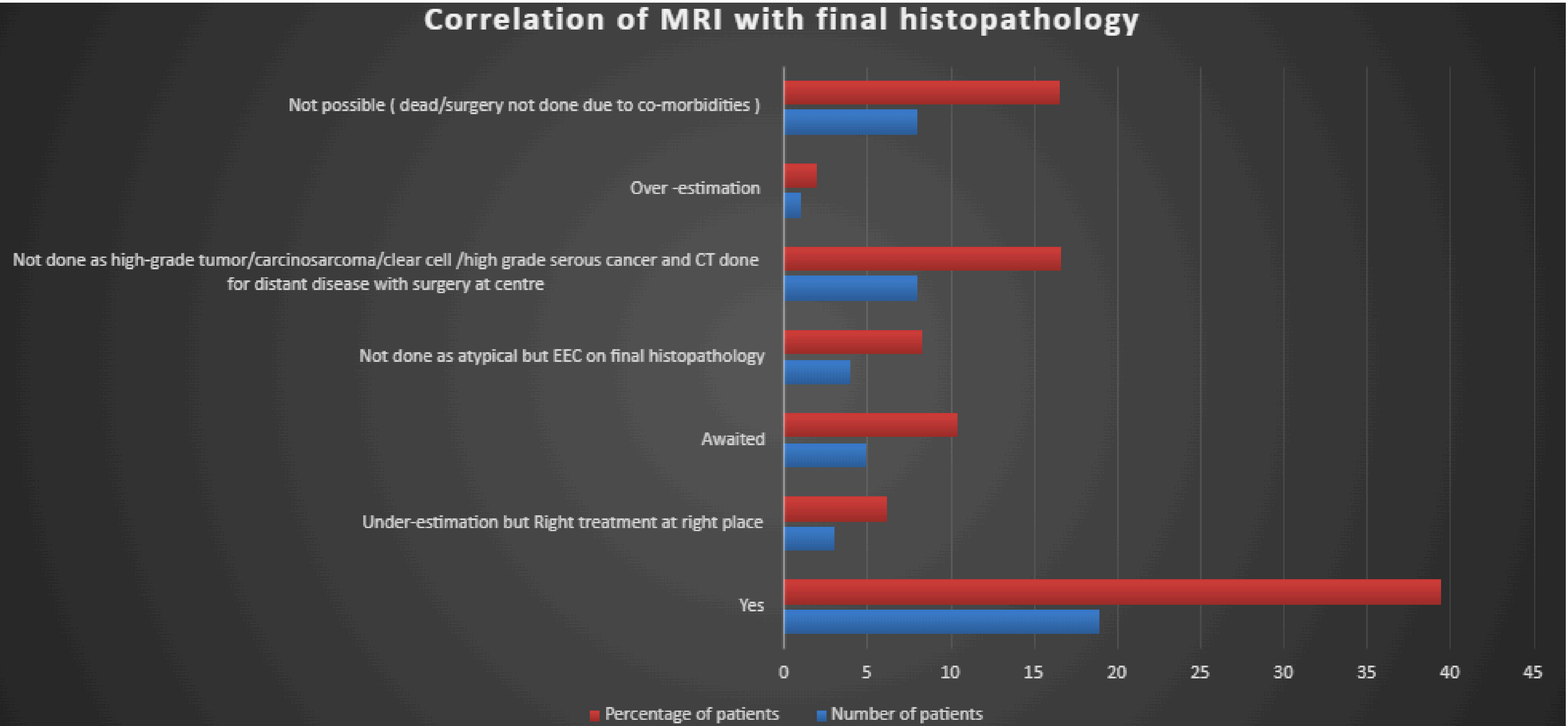
Surgery performed : 35 patients
•Surgery not done due to poor performance status : 8 patients
•Surgery awaited : 5 patients

STAGING BASED ON MRI

MRI		
Stage	Number	Percentage
1a	17	35.4
1b	7	14.58
Stage 2	3	6.25
Stage3	4	8.3
Stage4	2	4.16
Not done	16	33.33

•MRI NOT DONE AS ADVANCED DISEASE : 8
•MRI NOT DONE AS ATYPICAL HYPERPLASIA ON INITIAL H/P: 4

CO-RELATION OF MRI FINDINGS WITH HISTOPATHOLOGY



ANALYSIS

- IN ONLY 4 CASES THERE WAS AN ERROR IN MRI ANALYSIS
- 1 WAS PICKED UP AS GREATER THAN 50% MYOMETRIAL INVASION CAUSING SURGERY TO BE IN CANCER CENTRE BUT CAME BACK AS 1A ON FINAL HISTOPATHOLOGY
- IN 3 CASES MRI UNDER ESTIMATED THE DISEASE BUT RIGHT SURGERY WAS DONE AT RIGHT PLACE DUE TO ALREADY HIGHER STAGE /GRADE OF DISEASE. THESE 3 CASES ARE AS BELOW :
- IN 1 CASE MRI SHOWED 1B DISEASE BUT FINAL HISTOPATHOLOGY CAME BACK AS 2B DISEASE
- IN 1 CASE MRI SHOWED STAGE 2 DISEASE BUT THE FINAL HISTOPATHOLOGY SHOWED 3C1 DISEASE DUE TO INVOLVED LYMPH NODES
- IN 1 CASE MRI SUGGESTED STAGE 1A AND CT SHOWED NO DISTANT METASTASES BUT IT WAS A STROMAL SARCOMA AND FINAL HISTOPATHOLOGY CAME AS STAGE 1B DISEASE

•IN 25 CASES, CORRELATION WAS NOT POSSIBLE AS SURGERY WAS NOT DONE AS EITHER IT WAS AWAITED, NOT POSSIBLE AS PATIENTS WERE DEAD OR NOT FIT FOR TREATMENT (13) OR MRI WAS NOT DONE AS IT WAS ATYPICAL HYPERPLASIA ON INITIAL HISTOPATHOLOGY (4) OR IT WAS A HIGH GRADE DISEASE WHERE CT WAS MORE APPROPRIATE TO RULE OUT DISTANT METASTASES AND LYMPH NODE INVOLVEMENT (8)

•THUS, THE OVERALL ACCURACY OF MRI IN THIS PATIENT GROUP WAS 19 OUT OF 23, THAT MAKES IT 82.6%ACCURATE , A REASONABLE IMPROVEMENT FROM THE PREVIOUS YEAR.

MMR STATUS

MMR status	Number	Percentage
Proficient	37	77
Deficient	9	18.75
Awaited	2	4.16

MMR status	Number	Percentage
MMR deficient	9	
Methylation positive	7	77.77
Methylation negative	2	22.22

CONCLUSION AND LITERATURE REVIEW

•According to the national audit on staging accuracy of MRI in endometrial cancer by Duncan et al published in 2011, MRI accuracy was compared to target cut-offs of 82, 86 and 70% for cervical stromal invasion, myometrial invasion and lymph node metastases respectively1.
Targets for MRI staging were achieved nationally for two of the three standards: diagnostic accuracy for depth of myometrial invasion, 82%; cervical extension, 90%; and pelvic nodal involvement, 94%; the latter two being well above the targets.

A high degree of concordance between MRI and final histopathology is essential for accurate surgical planning. MRI is paramount for local staging of cancer

- In this study, 82.6% of patients underwent surgery at the appropriate facility with the correct procedure based on MRI findings, which is an improvement from the previous study.
- We think that consistent same gynaecology radiologist with experience in gynaecology oncology during MDT discussions has helped us attain the above standard
- MMR status analysis showed 77% were MMR proficient, while 18.75% were MMR deficient.
- Among MMR-deficient cases, 77% had MLH1 promoter methylation, and 22% were negative, requiring germline testing referrals.
- All 22 % of MMR-deficient MLH 1 Promoter hypermethylation negative patients had germ-line testing within 4 weeks.
- Informed consent was taken in all cases before referral for germ-line testing.

RECOMMENDATIONS

•FURTHER ANALYSIS TO SEE THE ACCURACY OF MRI CONCERNING DEPTH OF MYOMETRIAL INVASION , CERVICAL STROMAL INVASION AND LYMPH NODE METASTASES AND CALCULATION OF SENSITIVITY AND SPECIFICITY OF MRI IN THESE SCENARIOS

- TO CONTINUE ROLLING AUDIT ON ANNUAL BASIS TO MAKE SURE STANDARDS ARE MET

REFERENCES : K.A. DUNCAN, K.J. DRINKWATER, C. FROST, D. REMEDIOS, S. BARTER,STAGING CANCER OF THE UTERUS: A NATIONAL AUDIT OF MRI ACCURACY,CLINICAL RADIOLOGY,VOLUME 67, ISSUE 6,2012,PAGES 523-530,ISSN 0009-9260