Audit of endometrial cells in cervical smears

When to report and when to act?

Project Team

- This audit was conducted by Dr Nasima Tofazzal, Consultant Cytopathologist at Singleton Hospital, Swansea (Nasima.Tofazzal@wales.nhs.uk)

- Emma Jones, Trainee BMS at Singleton Hospital, Swansea (Emma.Jones18@wales.nhs.uk) was responsible for the manual examination of the HMR forms

Aim of audit

- To find out:

1. The number of cases where endometrial cells were noted
2. The age profile of these women
3. The outcome of these cases
4. The appropriate action to be taken for these cases

Introduction

- Cervical smears were not designed to identify glandular abnormalities of the cervix or endometrium
- Endometrial cells are often identified in smears in women of all ages- often normal, occasionally atypical
- Endometrial carcinoma is now the most common cancer of the female genital tract, the incidence of new cases in the UK in 2005 at 22.4/100,000 [1]
- A category of 8e is used to code glandular cells with borderline atypia (CSW has now introduced an 8M category specifically for endometrial cells)

Reporting of endometrials

- The presence of endometrial cells need not be reported for pre-menopausal women or post-menopausal women on hormonal treatment
- The presence of normal endometrial cells must be reported in post-menopausal women (>1 year since LMP and not on hormone treatment) with a recommendation for further investigation
- Abnormal endometrial cells of any grade should always be reported with a recommendation for direct referral to colposcopy

Taken from CSW Quality Manual.

Method and materials

- Surepath Liquid Based Technology
- All smears sent to Singleton Hospital in 2008 were audited (30,664 cases)
- HMR forms were manually examined for documented evidence of endometrial cells
- These cases were followed up for 30 months on the laboratory data base
- Histological reports were correlated with the cytological findings

Results

- 30,664 smears were received in Swansea in 2008
- 139 smears (0.45%) had documented endometrial cells. Of these:-
  - 128 cases (0.42%) contained normal endometrial cells, 58 of these cases (0.19%) were deemed to have inappropriate endometrial cells present (the remaining 70 negative cases were disregarded)
  - 11 cases (0.035%) were considered to have abnormal endometrial cells

Inappropriate endometrials - Results

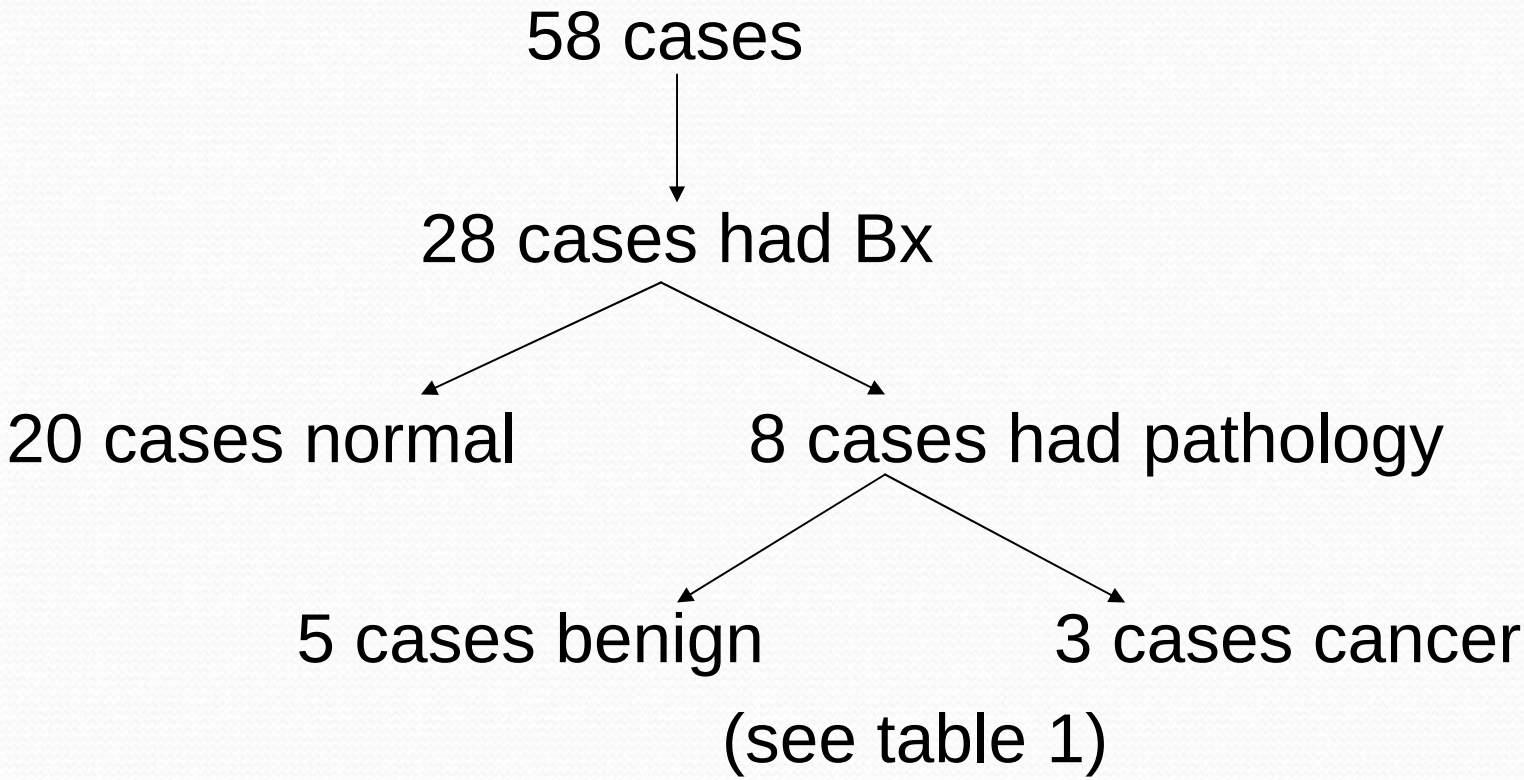


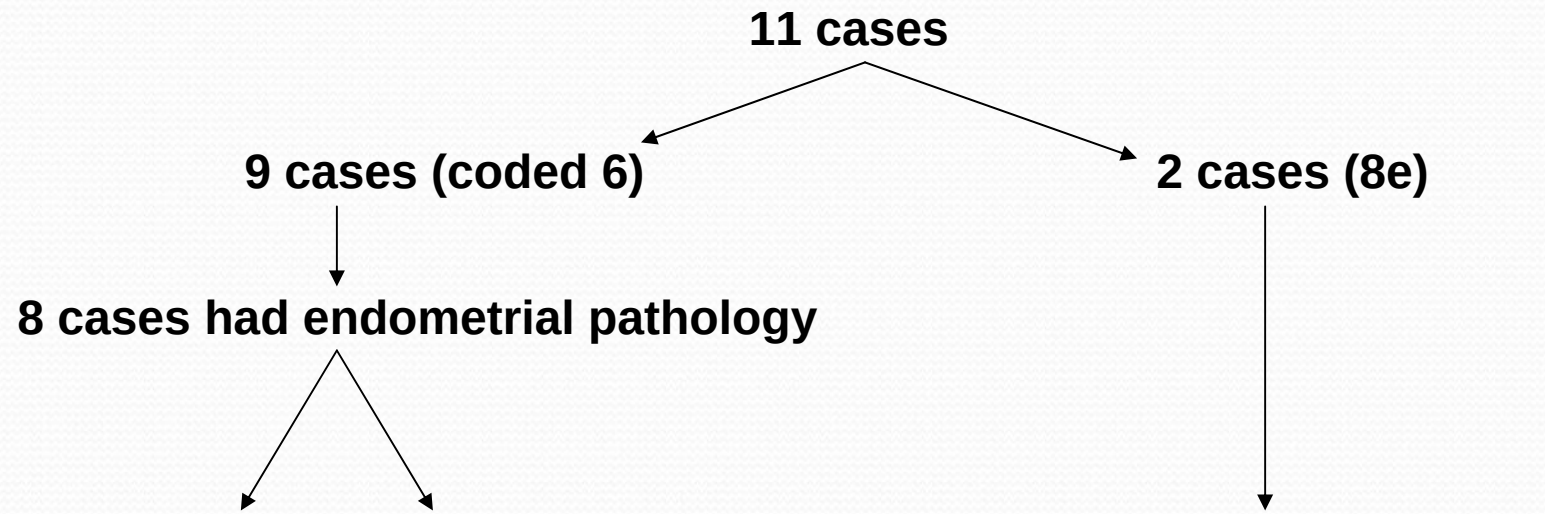
Table 1: Outcome of biopsies of 8 cases identified by presence of inappropriate endometrials

Age	Clinical	Bx result	Final outcome
38	IMB	Polyp with simple hyperplasia	
50	-	Simple endometrial hyperplasia	Adenomyosis
52	PM, on HRT	Atypical hyperplasia and non invasive Serous papillary Ca of endometrium	Non invasive serous papillary ca (FIGO IA)
53	-	Moderate hyperplasia of endometrium	
56	PMB	Benign Endometrial Polyp	
58	PV spotting	Complex atypical hyperplasia	G2 endometrial hyperplasia FIGO 1A
60	PMB	G1 endometrial adeno Ca	FIGO 1C
62	PMB	Simple hyperplasia	Moderate hyperplasia with atypia

Abnormal Results

- 11 cases reported as abnormal
- Of these:-
  - 9 cases were reported as ? Glandular Neoplasia (code 6)
  - 2 cases were reported as aytpical glandular cells ? Endometrial (code 8e)
  - All 11 cases had follow up biopsies

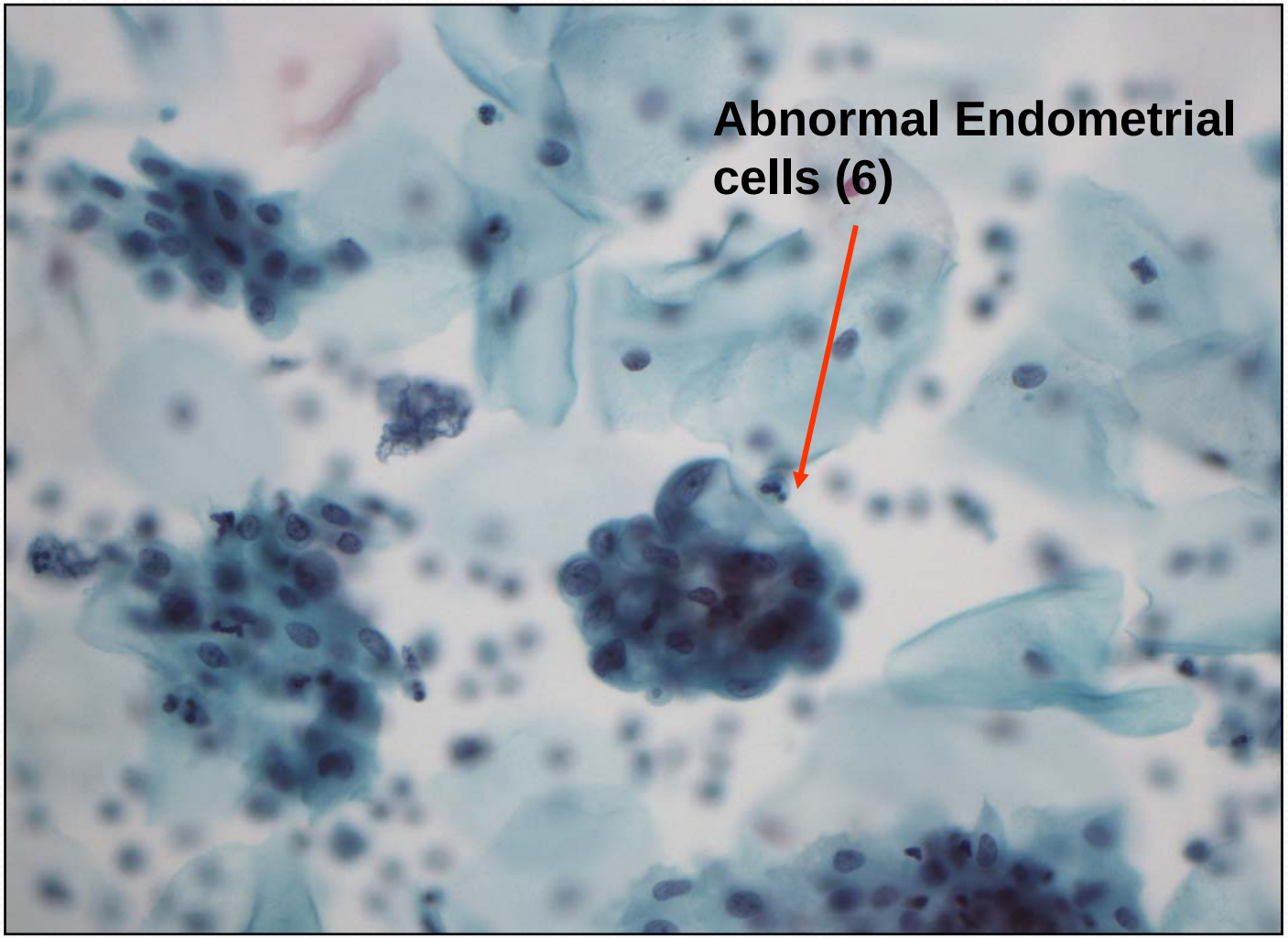
Abnormal results

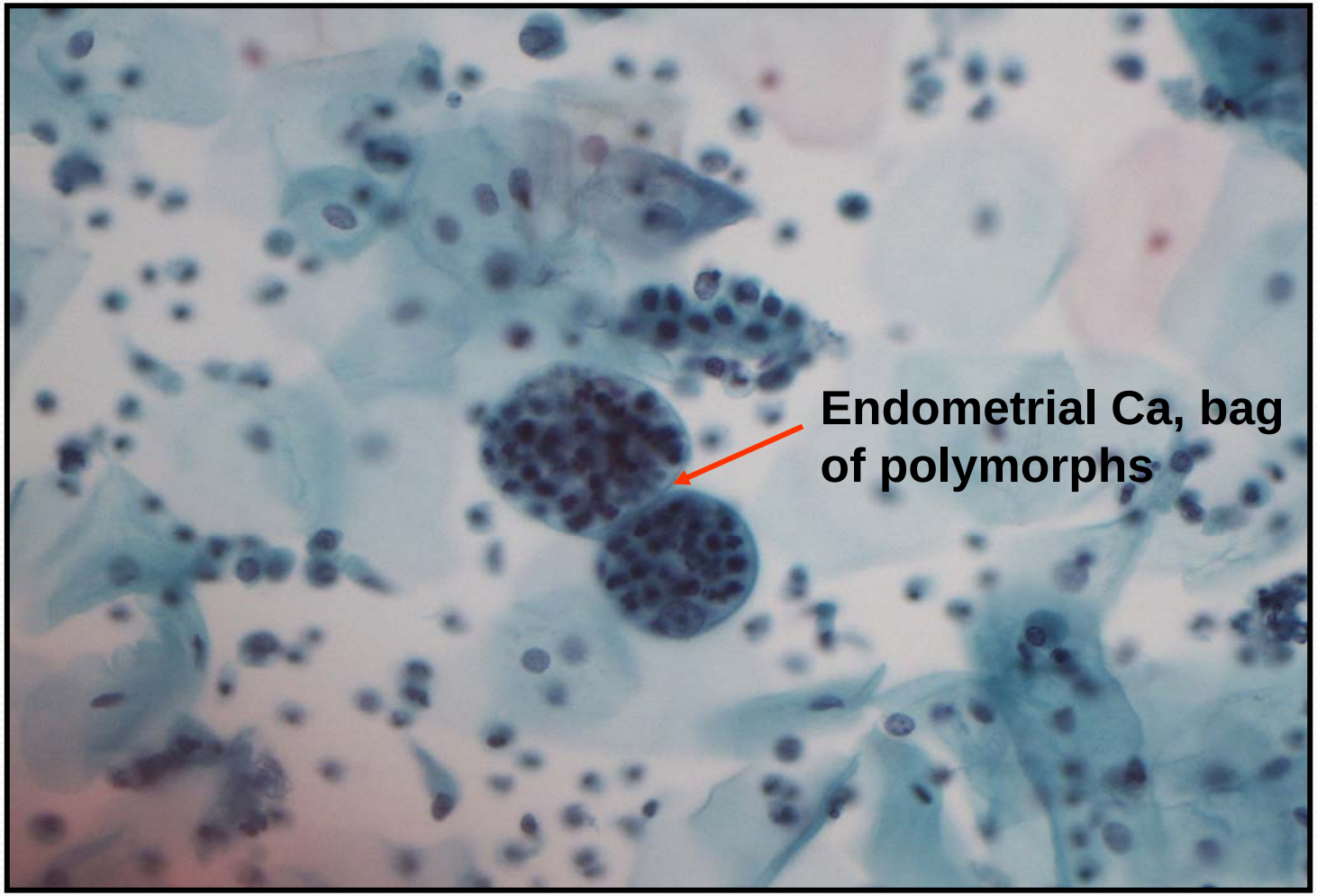


(1 case had no abnormality on cervical and endometrial biopsies)

Table 2: Outcome of biopsies of smears reported as Glandular neoplasia (code 6)

Age	Menstrual status/ s/s history	Endometrial Bx result	Cx bx/loop	Final outcome
45	6th day	Endometrial polyp	Loop - NAD	
55	PM spotting	G1 endometrial adeno Ca	Bx - NAD	FIGO 1C
57	PMB	NAD	Bx - NAD	NAD
58	PMB	Severe Atypical hyperplasia		FIGO 1B
58	PMB	G1 endometrial Ca		FIGO 1B
61	PMB	G3 endometrial Ca		
62	PM	G3 Serous Papillary Ca	Loop – NAD	1A
62	PM	Complex atyp hyperplasia, suspicious of Ca		FIGO 1B, G2 endometrial Ca
63	PM	Cx loop glandular neoplasm ?endometrial	Loop – glandular ? endometrial	HG Serous Papillary Ca on omental Bx ? ovarian


Abnormal Endometrial cells (6)


Endometrial Ca, bag of polymorphs

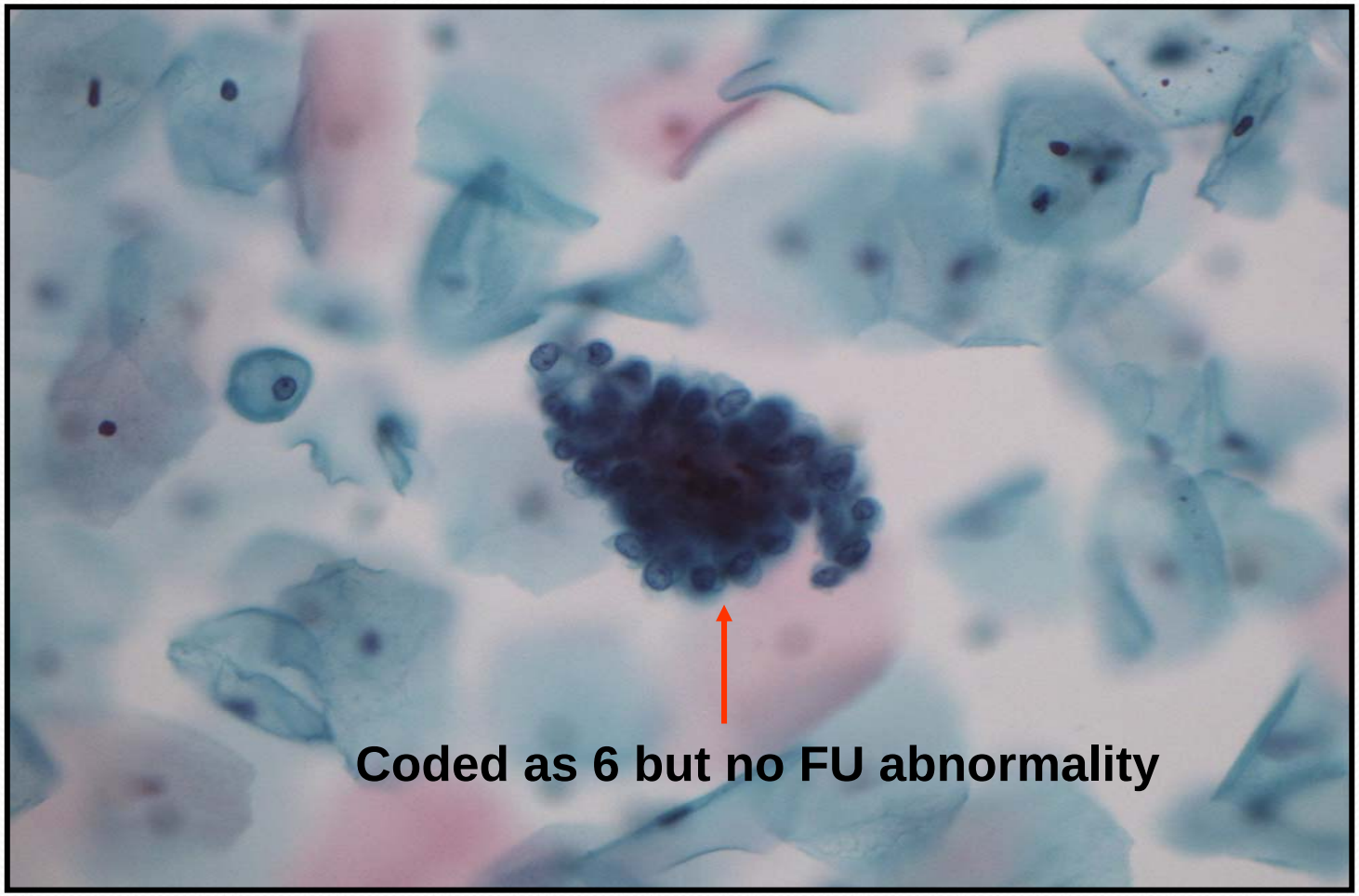
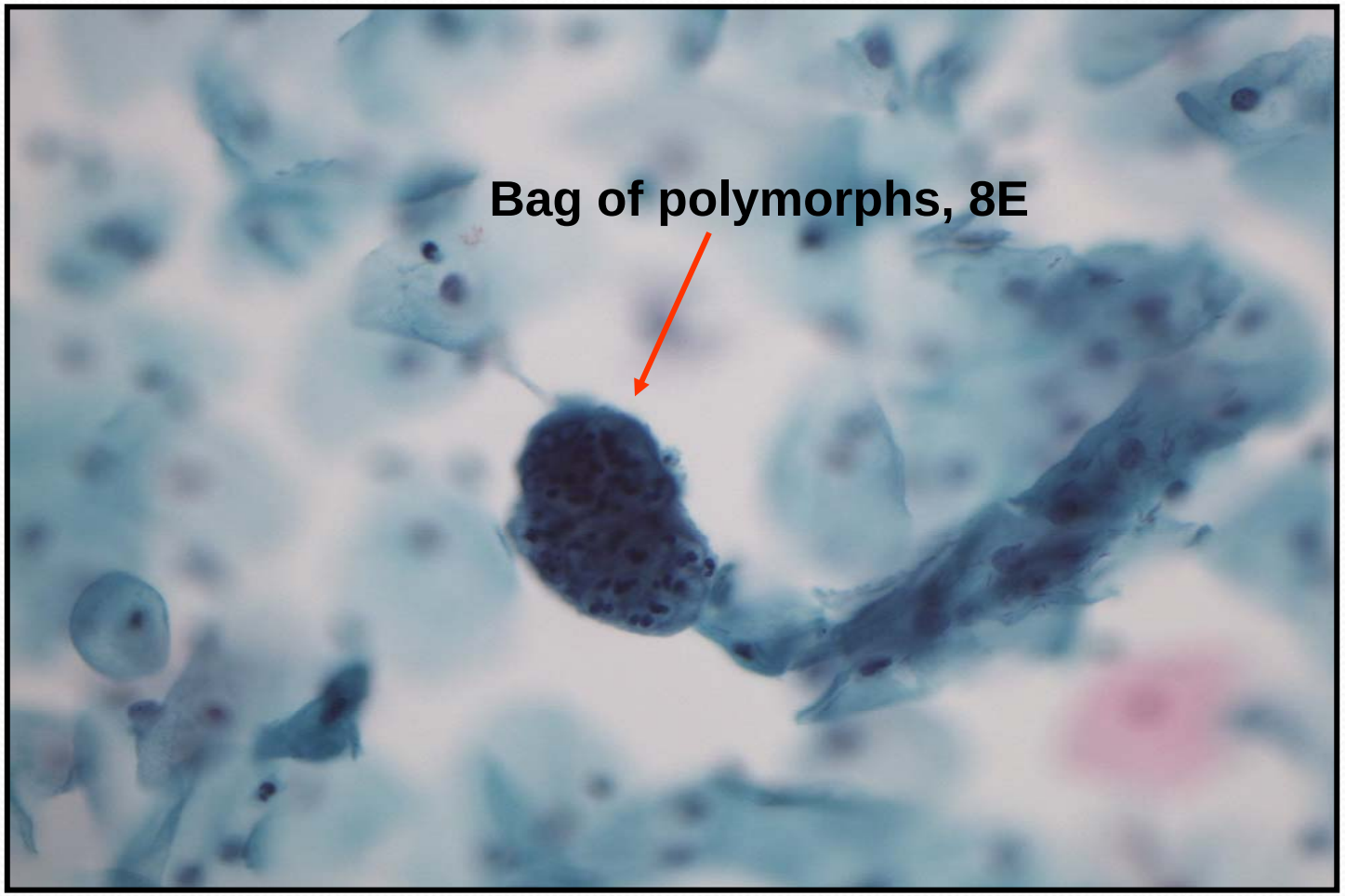

Coded as 6 but no FU abnormality

Table 3: Outcomes of biopsies of cases reported as Borderline Endometrial Cells

Age	Menstrual status	Endometrial Bx result	Final outcome
44	16th day	Proliferative, NAD	No FU
56	PM	inadequate	No FU


Bag of polymorphs, 8E

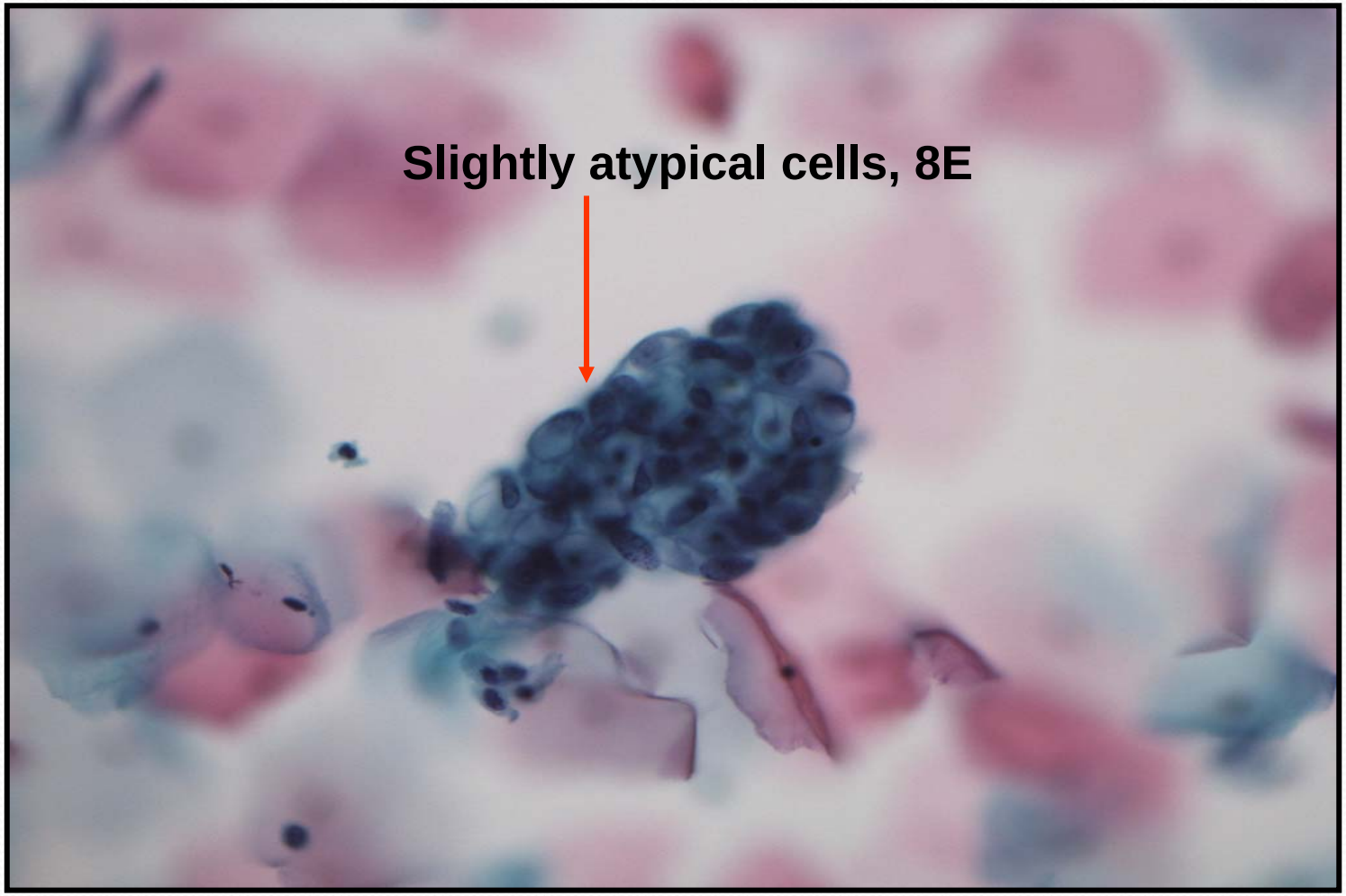

Slightly atypical cells, 8E

Table 4: FIGO Staging
Of all endometrial cancers found

FIGO Stage	Number
IA	3
IB	3
IC	2
IIA	0
IIB	0
III	0
VI	0

Staging was unavailable in 1 case, 1 case had omental involvement so ? if ovarian in origin

Table 5: Age distribution

Age	Total number	Number with carcinoma
30-40	35	0
41-50	57	0
51-60	34	6
61-70	12	4
>71	1	0

Discussion

- 58 cases were considered to have inappropriate endometrials
  - 28 with normal endometrial cells had follow up biopsies.
  - 8 had some abnormality.
    - 5 were benign and **3 were cancer**
- 11 cases were considered as abnormal
  - 1 was a polyp and 1 showed no abnormality
  - 9 were reported as Glandular Neoplasia
    - **7 were Carcinoma**

Discussion

- 10 cancer cases in total (table 4)
  - 6 had PMB/PV spotting
  - 4 were asymptomatic

- All of the women with carcinoma were in the **age group 50-65 years** (table 5)
- The time of the biopsy after smear ranged from 0-12 weeks
- Loop excision of the cervix was done on 2 patients which proved to be unnecessary

Conclusion

- **All smears with abnormal endometrial cells** should be urgently referred for clinical investigations, especially if there is a history of PMB/PV spotting
- **Normal endometrial cells** in premenopausal women or women with an IUCD or on HRT do not need to be reported
- LLETZ is an unnecessary investigation/treatment for abnormal/inappropriate endometrials
- It is not necessary to refer women (<45 yrs old) to colposcopy or gynaecology for **normal but inappropriate endometrial cells** unless there is any clinical indication.

References

1. Patel C., Ullal A., Roberts M., Brady J., Birch J., Bulmer J.N. and Wadehra V., 2009.

   Endometrial carcinoma detected with SurePath liquid-based cervical cytology: comparison with conventional cytology. *Cytopathology*, **20**, 380-387.