Cervical Cytology Case Study

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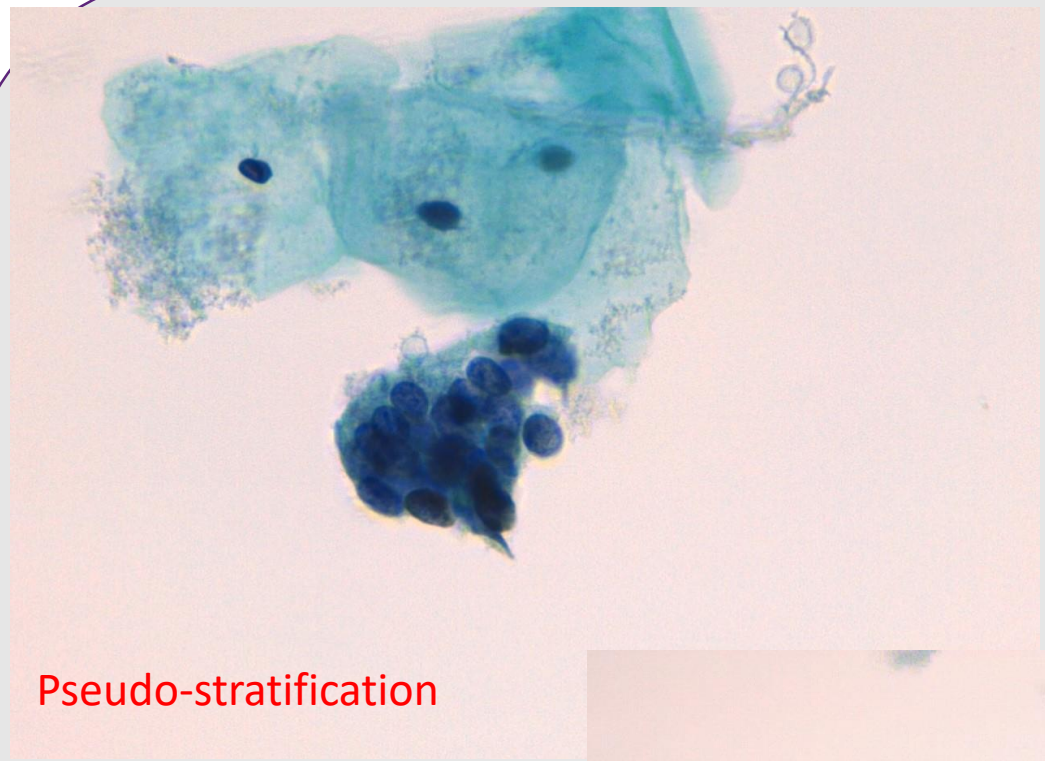
Clinical History

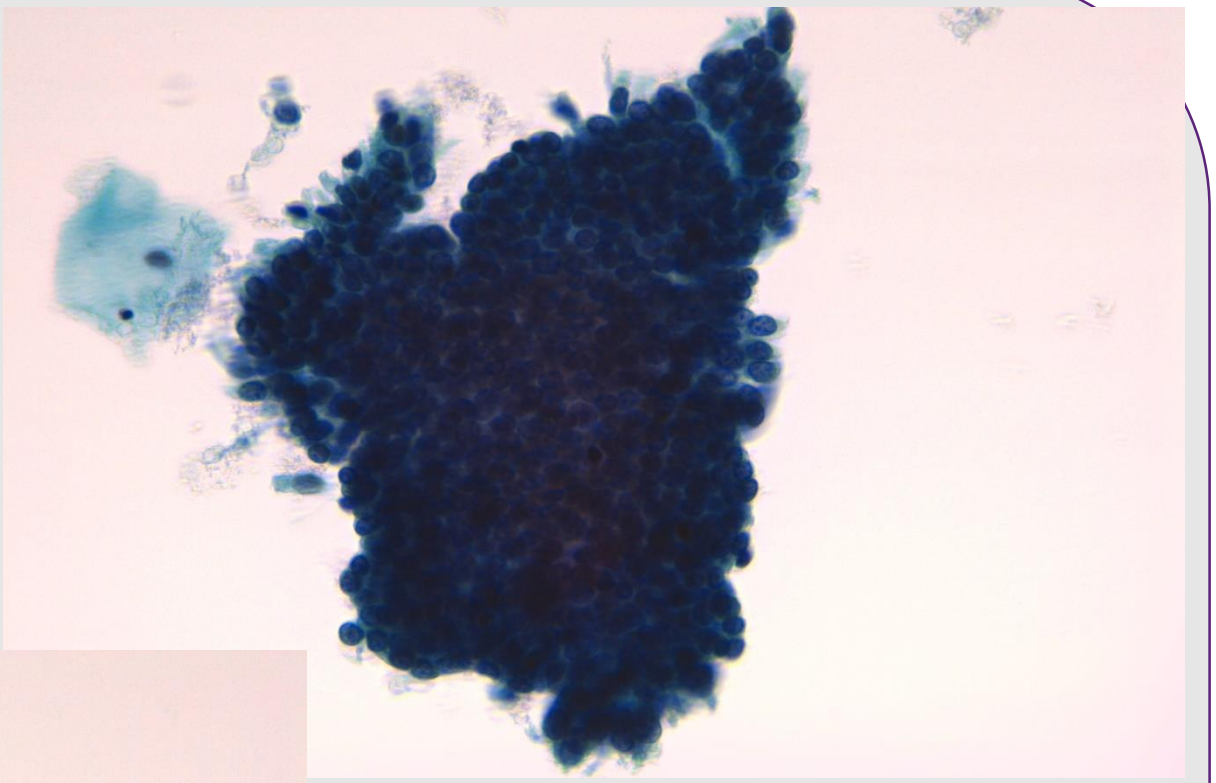
- 62 year old
- First cervical screening programme sample recorded in 1991
- The individual was a regular attender up until 2016 with a negative history
- Presented with post-menopausal bleeding (PMB) at GP in 2022
- Reviewed at one stop clinic with fluid in uterine cavity on transvaginal (TV) scan
- Patient referred to gynaecology to have cytology sample + hysteroscopy under general anaesthetic

Cytology/Virology

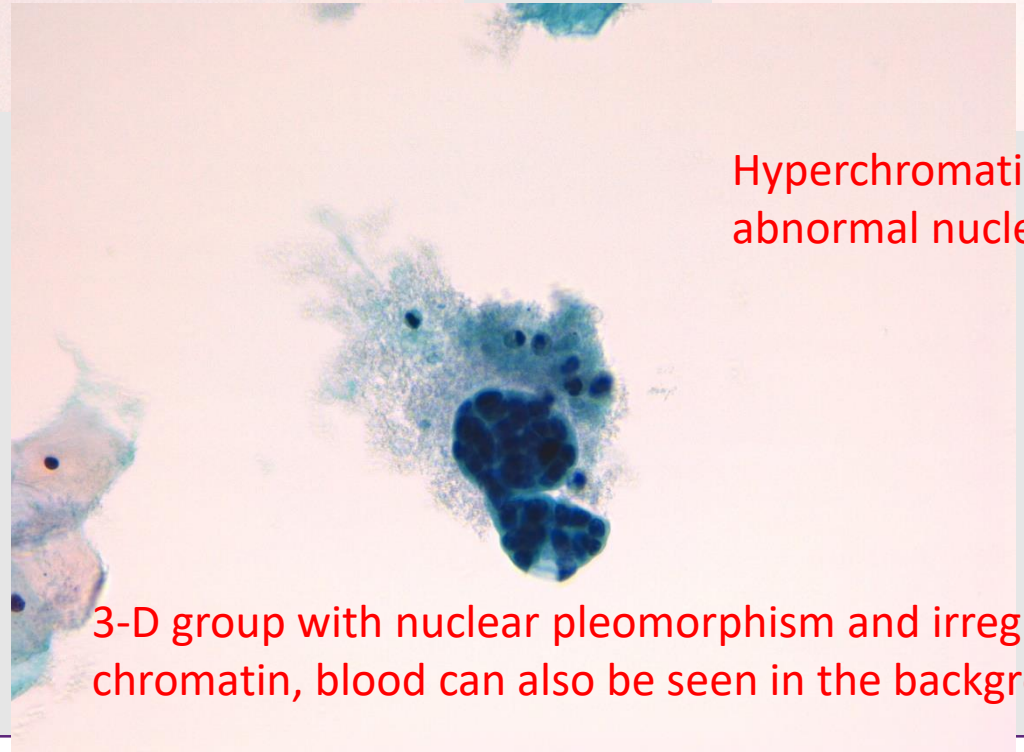
- Appearance of cervix was noted as *Suspicion of Malignancy*
- LMP- Not known
- Clinician noted *Examination under anaesthetic (EUA) in theatre showed friable cervical mass, urgent cx bx send for histology*
- Patient on the *Primary Screening* pathway
- HPV result- ***hr-HPV Positive***
- Advanced Specialist Diploma (ASD) trainee and Medical Consultant reported the sample as ***Glandular Abnormality***
- This is the terminology used in Scotland; equivalent terminology in England/Wales is ?glandular neoplasia of endocervical type.



Pseudo-stratification



Hyperchromatic crowded group (HCG) with feathering and abnormal nuclei that have irregular chromatin



3-D group with nuclear pleomorphism and irregular chromatin, blood can also be seen in the background

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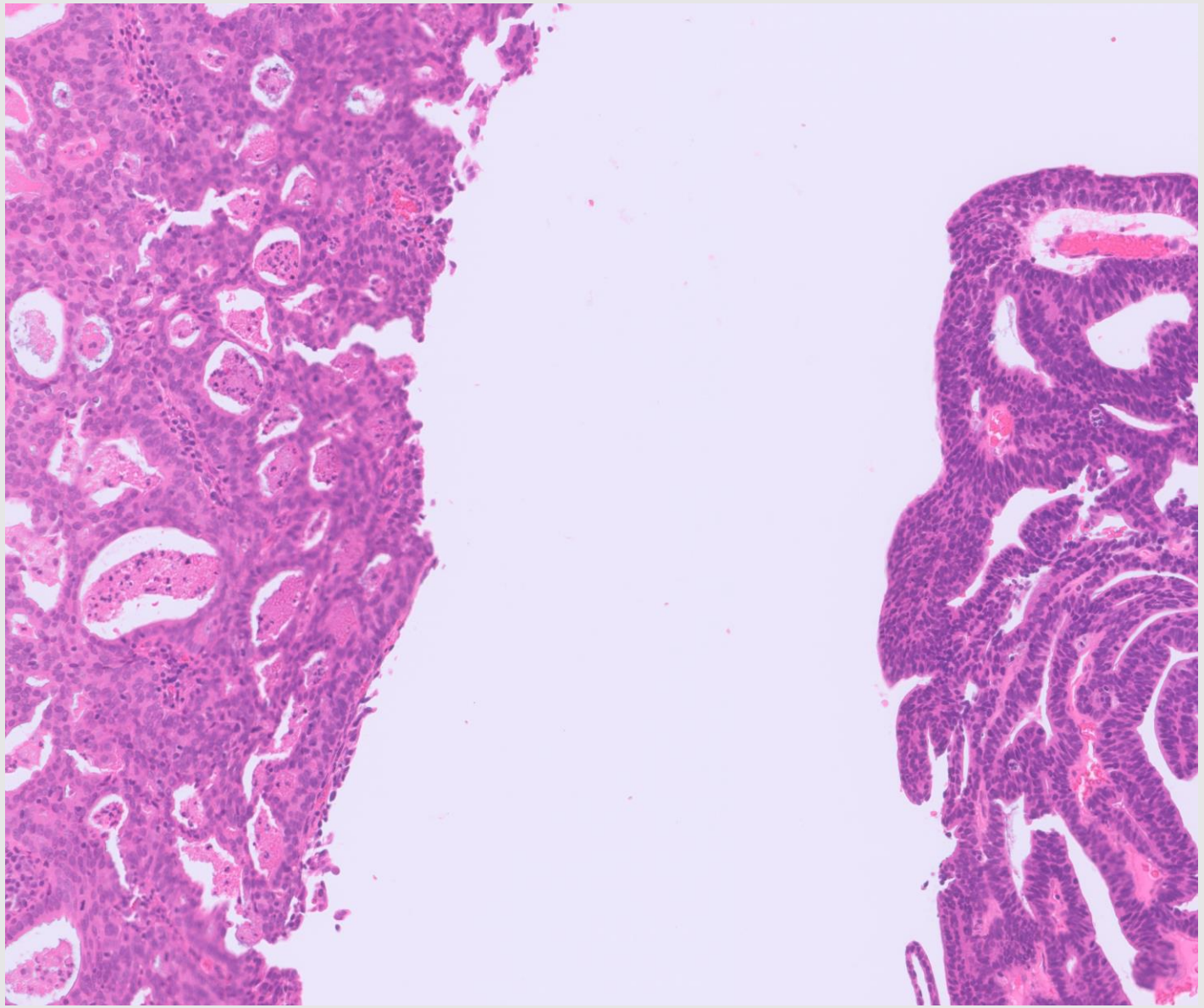
Diagnosis

- Cervical Biopsy
- Macro description
  - Moderate fragments

- Microscopy
  - Microscopy shows superficial fragments of cervical adenocarcinoma mainly grade 1 (G1) but in areas amounting to grade 2 (G2) cervical adenocarcinoma



H&E shows both G1 (right hand side) and G2 (left hand side) endocervical adenocarcinoma.

MDT Discussion

- The patient was discussed at the Gynaecology Oncology meeting

- Findings at day surgery unit were friable ulcerated cervix, no lesion on vaginal wall, no obvious parametrial or rectal involvement. Transvaginal scan in theatre showed 3.11x2.57x2.33cm echogenic mass at posterior cervix. Cervical biopsy performed

MDT Discussion

- The following information was noted as part of MDT discussion.

- Final Tumour Site: Cervical
- Final Tumour Type: Adenocarcinoma
- Final Tumour Grade: G2
- Final Tumour Stage: IIB (FIGO 2018)
- Outcome: Patient to have PET CT scan and referred to Oncology Consultant

Discussion/Teaching Points

- Clinical History
  - The patient regularly attended for cervical samples up until 2016, then there was a six year gap. One of the known risk factors for cervical cancer is not attending for regular screening
  - The national target for cervical screening coverage is 80%, however the most recent uptake figures from England show none of the regions met the target (GOV.UK, 2023a). Likewise none of the NHS boards in Scotland met the 80% target in the financial year 2021/22 (Public Health Scotland, 2023)

Discussion/Teaching Points

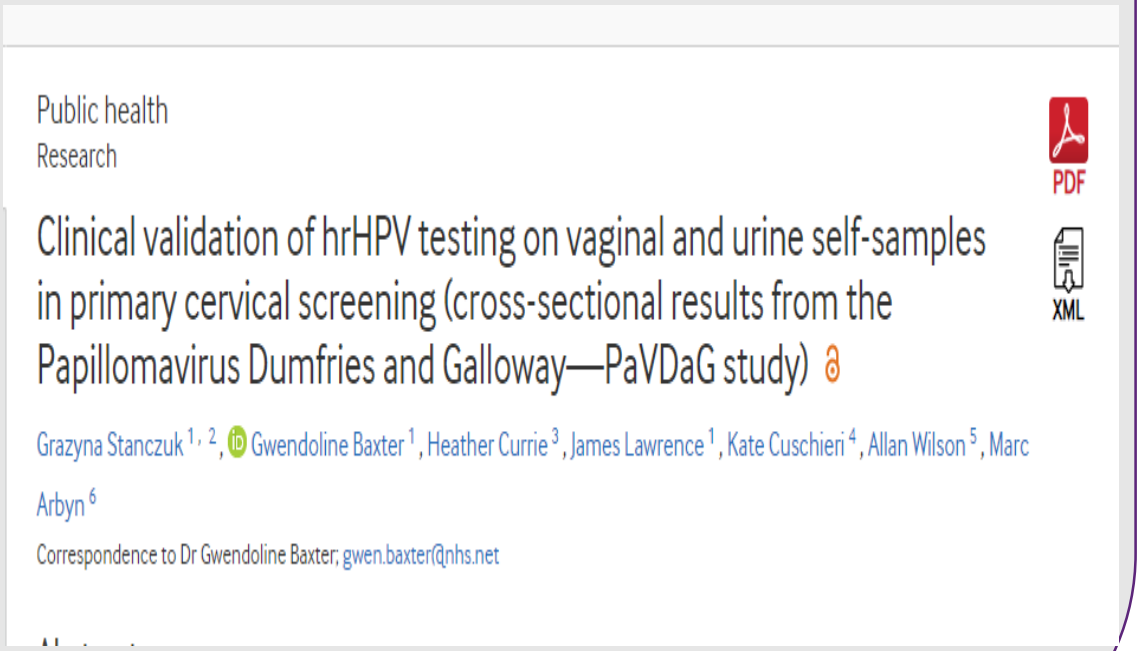
- Screening Initiatives to improve coverage
  - Awareness campaigns such as the *Cervical Screening Saves Lives Campaign* and cervical screening awareness week
  - Increasing accessibility of appointments- NHS Lothian set up an evening cervical screening clinic for staff members to attend
  - Specially tailored clinic for individuals who have suffered sexual violence to attend for cervical screening- My Body Back Clinics are available in Glasgow and London
  - Screening champions who work with hard to reach groups; individuals with learning difficulties, ethnic minority populations, travellers, transgender individuals and those with physical and mental health issues

Discussion/Teaching Points

- Self- sampling is also being considered by the National Screening Committee to help improve coverage. A number of research projects have been completed or are near completion in the UK (HPValidate, YouScreen and PaVDaG). The outcomes from these studies will help inform how self-sampling should be incorporated into the UK Cervical Screening Programme

YouScreen

Cervical Screening Made Easier



Public health

Research

PDF

XML

Clinical validation of hrHPV testing on vaginal and urine self-samples in primary cervical screening (cross-sectional results from the Papillomavirus Dumfries and Galloway—PaVDaG study)

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Discussion/Teaching Points

- Differential Diagnosis
  - Endometrial endometrioid carcinoma- lack conspicuous mitosis and apoptosis and has patchy or negative p16 staining
  - HPV-independent adenocarcinomas (gastric, clear cell, mesonephric)- lack conspicuous mitosis and apoptosis and has patchy or negative p16 staining
  - Microglandular hyperplasia- lacks nuclear atypia and mitoses
  - Tunnel clusters- atypia and mitotic figures are generally absent
  - Arias-Stella reaction- lack of mitosis and patient has no history of recent or current pregnancy

Discussion/Teaching Points

- The prevalence of cervical adenocarcinomas is lower than squamous cell carcinoma. The recent NHSCSP publication *Audit of invasive cervical cancer: national report 1st April 2016 to 31st March 2019* (2023b) showed approximately 18% of cervical cancers were classified as adenocarcinoma on histology
- WHO classification separates adenocarcinomas of the cervix into HPV-associated and HPV independent
- HPV association can be confirmed using p16 or HPV genotyping. The majority of cases are caused by HR-HPV 16 and 18

Discussion/Teaching Points

- The typical features of HPV-associated endocervical adenocarcinomas include karyorrhexis, atypical mitoses which can be seen at low power magnification, abnormal nuclei that can be elongated, enlarged and hyperchromatic. Glands are lined by pseudostratified columnar epithelium
- The adenocarcinoma was graded as a Grade 2 which means it was moderately differentiated. This can be seen on the H&E where there is increased architectural complexity

Follow up

- The final staging which is based on FIGO staging was a IIB, thus indicating a tumour with parametrial involvement (WHO, 2020). Patients with parametrial involvement are not suitable for a radical hysterectomy but can have concurrent chemo-radiotherapy (CCRT) with curative intent, as was the management for this patient
- Chemo-radiotherapy treatment involves external and internal radiation treatment, the former consists of external beam radiotherapy (EBRT) and the latter is carried out using intracavitary brachytherapy (BT). The chemotherapy drug Cisplatin is given as the same time as the radiation therapy
- The patient was excluded from the cervical screening programme and discussed at the cervical national invasive cancer audit (NICA) meeting

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