

Importance of Pap Smear in Hysterectomised Patients So That Diagnosis of VAIN cannot be Missed

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Abstract: Vaginal Intraepithelial Neoplasia (VAIN) in hysterectomised patients is not a very uncommon finding. The present study is designed to know such cases in Jharkhand as studied in RIMS, Ranchi, Jharkhand. A case series of three patients who were hysterectomised for different reasons were subjected to PAP SMEAR examination of vaginal smears and were identified as VAIN of different grades.

Keywords: hysterectomised, pap smear, VAIN

I. Introduction

The relative rarity of VAIN (Vaginal Intraepithelial Neoplasia), which is far less common than Cervical Intraepithelial Neoplasia (CIN) or Vulvar Intraepithelial Neoplasia (VIN), is an impediment to a thorough understanding of the disease process and its natural course. In our area, the incidence of VAIN in patients who had been hysterectomised for carcinoma cervix is less studied. VAIN arises from native squamous epithelium of vagina, not metaplastic epithelium as in cervix. Vaginal intraepithelial neoplasia (VAIN) often accompanies CIN and is believed to have a similar etiology. Such lesions may be extensions onto the vagina from the CIN, or they may be satellite lesions occurring mainly in the upper vagina⁽¹⁾. VAIN lesions are mostly asymptomatic but if they often accompany active HPV infection, the patient may report vulvar warts or an odoriferous vaginal discharge from vaginal warts⁽¹⁾. Prevalence of HPV in VAIN 2 / VAIN 3 and VAIN 1 is 92.6%, and 98.5%, respectively, higher than in vulvar lesions⁽²⁾. HPV 16 is most common strain in vaginal (55.4%) cancers and VAIN 2/3 (65.8%)⁽²⁾. History of prior pelvic radiation (7.4%), associated neoplasia of the lower genital tract (67.6%) and history of prior hysterectomy (54.4%) has been reported⁽³⁾.

Women with an intact cervix should undergo routine cytological screening. Because VAIN is nearly always accompanied by CIN, the Pap test result is likely to be positive when VAIN is present. Particular attention should be paid to the upper vagina. Women who have persistent positive Pap test after treatment for CIN should be examined carefully for VAIN. For women in whom the cervix has been removed for cervical neoplasia, Pap testing should be performed at regular intervals initially, depending on the diagnosis and severity of lesion, and yearly thereafter. Colposcopic examination and directed biopsy are the mainstays of diagnosis of VAIN. Typically, the lesions are located along the vaginal ridges, are ovoid in shape and slightly raised, and often have surface spicules. VAIN 1 lesions usually are accompanied by a significant amount of koilocytosis, indicating their HPV origin. As the lesions progress to VAIN 2, they exhibit a thicker acetowhite epithelium, a more raised external border, and less iodine uptake. When VAIN 3 occurs, the surface may become papillary, and the vascular patterns of punctuation and mosaic may occur⁽¹⁾. Early invasion is typified by vascular patterns similar to those of the cervix.

II. Materials And Methods

Female patients coming to RIMS Gynaecology cytology section were taken for study. In this series all hysterectomised patients who came for cytological examination were done routine local examination before study. By the use of Cusco's speculum and swab sticks, smears were taken from the vaginal wall and wet smears were prepared for PAP Staining and was examined under microscope. Prior to that history of the patient and cause of hysterectomy was noted besides age registration no etc.

III. Case Series

Case 1

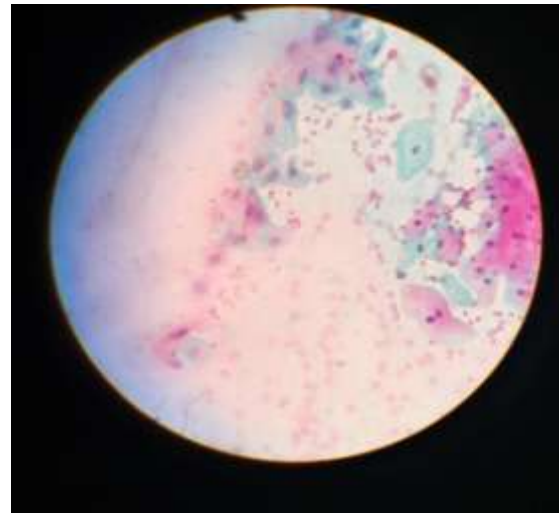
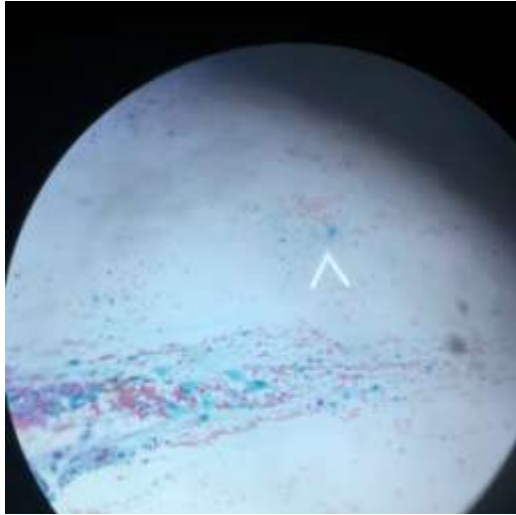
50 years old female presented with chief complaints of pain lower abdomen and low backache since 2 years and whitish discharge per vagina since 10 years. Patient was hysterectomised 5 years back for fibroid. The patient was sent for Pap smear examination in our department.

O/E:-mild Vault erosion and moderate amount of discharge.

NOTE:-Smear taken from posterior vaginal wall and anterior vaginal wall.

PAP SMEAR FINDINGS: - Fairly cellular smear showed clusters of intermediate squamous cells and few superficial cells against an inflammatory background. About 10-20% intermediate squamous cells showed nuclear enlargement, chromatin clumping and increased nucleocytoplasmic ratio.

IMPRESSION: Mild dysplastic changes suggestive of VAIN1



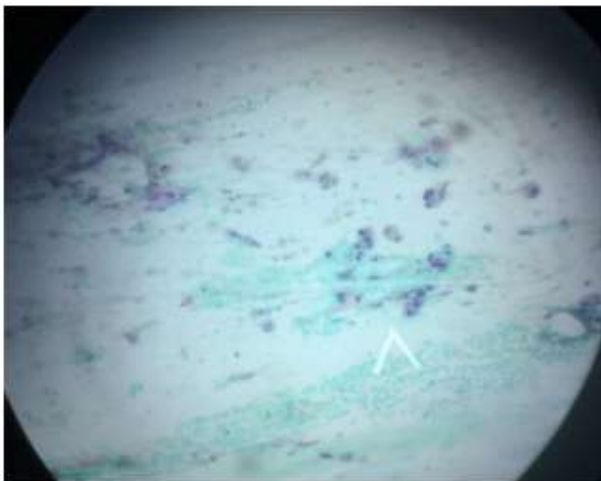
10xVIEWVAIN-140x VIEW VAIN-1

Case 2

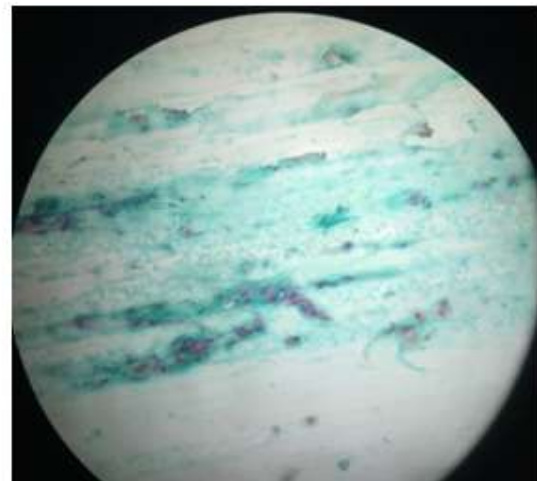
50 years old female (P5+0) presented with chief complaints of itching p/v since 1 year and low backache since 2 years. She had her hysterectomy done 2 years back since D&E (for retained products of conception) couldn't control menorrhagia.

PAP SMEAR CYTOLOGY: -Fairly cellular smear shows fair number of superficial and intermediate squamous cells with large number of atypical squamous cells showing nucleomegaly, hyperchromasia, chromatin clumping and irregular nuclear margin against heavy inflammatory background.

IMPRESSION:-Vaginal Intraepithelial Neoplasia 2



10 X VIEW- VAIN 2



20X VIEW- VAIN 2

Case 3

55 years female presented with chief complaints of whitish discharge p/v and irregular bleeding p/v since 1 year following hysterectomy (done for carcinoma cervix 2 years back). Radiotherapy had been given to this patient two years back.

O/E: Vault showed punctate haemorrhage.

PAP SMEAR CYTOLOGY:- The moderately cellular smear shows few pleomorphic atypical squamous cells with hyperchromasia, chromatinclumping, dyskaryosis and increased nucleocytoplasmic ratio with few clusters of fibre cells and occasional tadpole cells against hemorrhagic background.

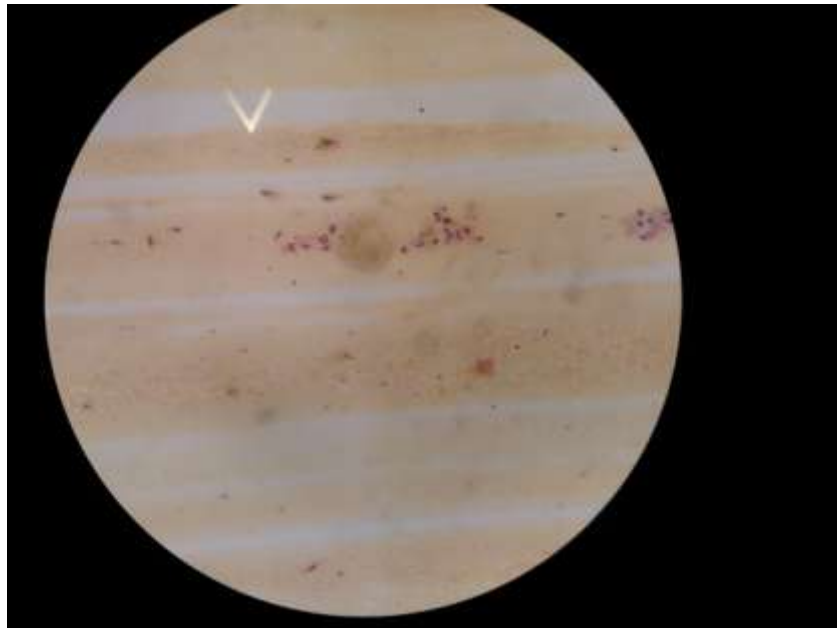
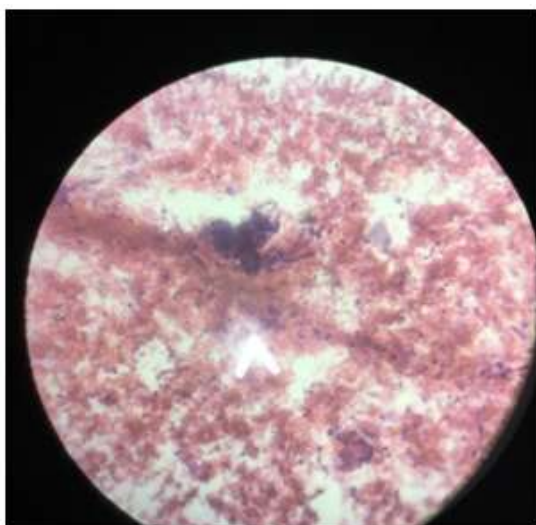
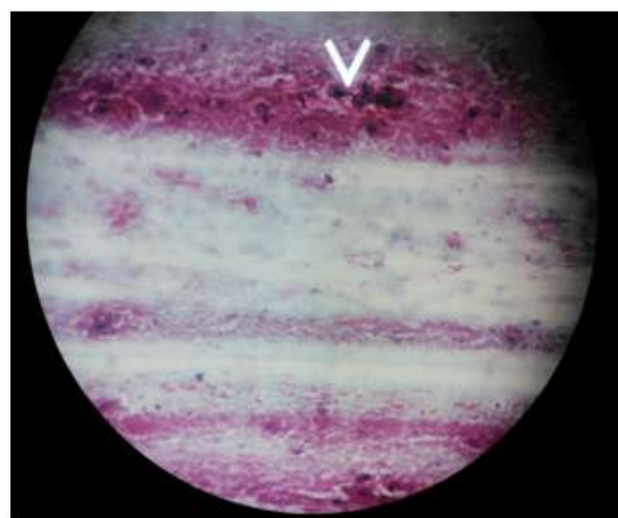


Figure- scanner view of VAIN 3

VAIN 3



40x view showing Fibre cells



40x view showing tadpole cell

IV. Results

Out of total 2324 cases which came to gynaecology cytology department from August 2013 to November 2015 for Pap smear screening, 23cases had a history of hysterectomy among which three cases were diagnosed as VAIN of 3 different grades.

Case 1:- Pap Smear Cytology- Fairly cellular smear showed clusters of intermediate squamous cells and few superficial cells against inflammatory background. About 10-20% intermediate squamous cells showed nuclear enlargement, chromatinclumping and increased nucleocytoplasmic ratio.

Impression: Mild dysplastic changes suggestive of Vaginal Intraepithelial Neoplasia Grade 1.

Case 2:-Pap Smear Cytology- Fairly cellular smear shows fair number of superficial and intermediate squamous cells with large number of atypical squamous cells showing nucleomegaly, chromatin clumping, irregular nuclear margin against heavy inflammatory background.

Impression: Moderate dysplastic changes suggestive of Vaginal Intraepithelial Neoplasia Grade 2.

Case 3:-Pap Smear Cytology- The moderately cellular smear shows few pleomorphic atypical squamous cells with hyperchromasia, chromatinclumping, dyskaryosis and increased nucleocytoplasmic ratio with few clusters of fibre cells and occasional tadpole cells against hemorrhagic background.

Impression: Severe dysplastic changes suggestive of Vaginal Intraepithelial Neoplasia Grade3.

The above mentioned 3 cases were reported as VAIN. In first case there was a history of hysterectomy for fibroid. In second case hysterectomy was done for retained products of conception. There was no evident history of carcinoma anywhere else in the genital tract. In third case, hysterectomy was done for carcinoma cervix which proved that pre-existing squamous cell carcinoma of cervix leads to VAIN.

Out of 23 hysterectomised cases subjected for Pap smear of vaginal cytology 3 positive cases of VAIN were revealed, meaning thereby an incidence of 13.04%.

V. Discussion

VAIN is a rarely diagnosed condition mainly due to failure of regular follow up and Pap smear examination in post hysterectomy cases. We are reporting three cases of VAIN. Among these, all cases were hysterectomised. If practised, Pap smear can diagnose VAIN at an early stage and subsequent squamous cell carcinoma can be prevented since high grade VAIN is a precursor to invasive squamous cell carcinoma of the vagina. VAIN is a well-documented entity as per the reports mentioned. According to a previous work published in ONCOLOGY, the incidence of VAIN post hysterectomy is 42%⁽⁶⁾ and 54.4%⁽³⁾. According to Schockaert S, Poppe W, Arbyn M, et al. after hysterectomy for cervical intraepithelial neoplasia: a retrospective study, development of subsequent vaginal intraepithelial neoplasia (VAIN) is known to range from 0.9% to 6.8%⁽⁴⁾. According to⁽⁵⁾, VAIN incidence is estimated in US at 0.1 cases per 100,000 women. In our case it was 13.04%. It was probably due to less no. of hysterectomised patients subjected for the study.

VI. Conclusion

Once the post hysterectomy scar has healed, examine the patient every 3 to 6 months for 2 years and annually thereafter. This study highlighted the role of PAP SMEAR to be continued at the gap of 3 to 5 years after hysterectomy and to create awareness among clinicians about the importance/incidence of VAIN. Therefore, Regular PAP smear is important in downstaging of VAIN and help institute earlier treatment.

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