

ENDOCERVICAL POLYP WITH ARIAS STELLA REACTION: DIAGNOSTIC NIGHTMARE FOR NOVICE PATHOLOGIST. A CASE REPORT

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ABSTRACT

Arias Stella reaction is an atypical endometrial change related to progesterational changes in pregnancy. The cytologic atypia in the endometrial glandular epithelium can pose a diagnostic difficulty to a novice pathologist especially when the history of pregnancy is not known and when the clinical presentation is of endocervical polyp. We present a case of endocervical polyp with atypical nuclear features which after a thorough review of literature was concluded to be Arias Stella reaction. The key differentiating features of this entity from malignancy needs to be stressed upon. In this report, we describe a case of Arias-Stella changes in the endocervical polyp of a postpartum 26 year-old woman and reiterate the importance of accurately diagnosing endocervical clear cell lesions, especially in young females where misdiagnosis may have grave consequences. And we intend to highlight the key differentiating features of Arias Stella reaction from cervical clear cell adenocarcinomas and nevertheless the importance of clinical history in recognising this pseudoneoplastic condition.

KEYWORDS : Arias Stella reaction, Clear cell change, Endocervical Polyp, Pseudoneoplastic condition.

INTRODUCTION:

The Arias-Stella reaction is a progesterone related change in the endometrium characterised by cytologic atypia in the form of nuclear enlargement, hyperchromasia, cytoplasmic clearing and vacuolisation¹. It is a well known pregnancy related entity in the uterus, but it poses a diagnostic challenge when present in an endocervical polyp². Its recognition in cervix is critical to avoid overdiagnosis of innocuous condition as clear cell adenocarcinomas. A close look to the cellular and nuclear details alongwith clinical history can be a boon to novice pathologist.

CASE REPORT:

A 26 years old primigravida delivered a full term baby by normal vaginal delivery. On Per speculum examination, a 2X2cm in size small polypoidal lesion was found. It was excised and sent for histopathological evaluation. Grossly, a polypoidal tissue measuring 2X1.8 cms was received in formalin. Its outer surface was smooth and showed congested vessels. On cut surface, it was smooth, homogeneous and solid white. On microscopy, the sections revealed a polypoidal tissue showing exuberant proliferation of endocervical glands (Figure 1) which were surrounded by thin slings of fibrous stroma. The glandular epithelium showed enlarged nuclei with marked hyperchromasia and abundant vacuolated to clear cytoplasm (figure 2) with frequent hob nailing of nuclei. Occasional bizarre cells with monstrous nuclei were also noted. Majority of the glands showed luminal mucin (Figure 3) but the glandular lining showed marked nuclear atypia. However, there was no atypical mitosis in the sections examined and there was a smooth interface between the glands and stroma with no evidence of desmoplasia or invasion. Based on these considerations, the histomorphological features were signed out as Arias Stella Reaction in an endocervical polyp and follow up colposcopic examination was advised.

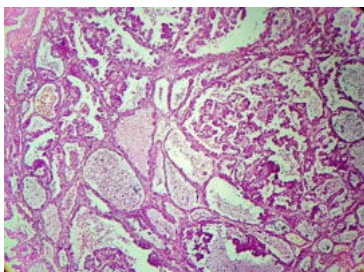


Figure 1(4x) shows exuberant proliferation of endocervical glands

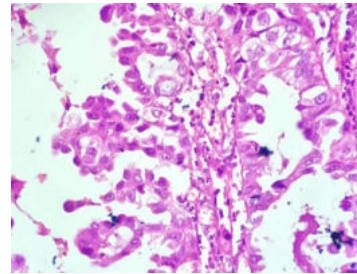


Figure 2 (40x) shows nuclear enlargement, hyperchromasia and clear to vacuolated cytoplasm

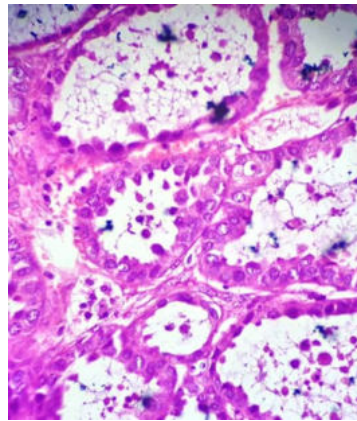


Figure 3 (40x) shows intraluminal mucin with glandular epithelium showing apical snouts

DISCUSSION:

This entity was first described by Dr. Javier Arias-Stella³ as pregnancy related atypical endometrial change. The common histologic findings are exuberant proliferation of glands with marked nuclear hyperchromasia, nuclear enlargement, hob nail nuclei, eosinophilic nuclear pseudoinclusions and abundant clear cytoplasm. There may be loss of cell polarity with papillary projections and epithelial tufting. Mitotic activity is usually absent. Originally, been described in uterine endometrium, now Arias Stella reaction has been reported in endometriosis, endocervical glands⁴, polyps⁵ and in fallopian tubes⁶. It poses a diagnostic challenge; when in endocervical polyp as the glands are increased in number and are disorganised in a polyp. The problematic features that adds to the difficulty are cribriforming of glands, tufted epithelium,

delicate intraglandular filiform micropapillae and oxyphilic cytoplasm¹. The key differentiating features of this pseudoneoplastic lesion from endocervical adenocarcinoma are that malignant cells show amphophilic cytoplasm, often intestinal-type cells, atypical mitoses and apoptotic bodies. Moreover, the lack of invasion should readily exclude the usual form of invasive endocervical adenocarcinoma.

Another close morphologic mimic of Arias Stella reaction is clear cell carcinoma as both the lesions share similar architectural and cytological features. When endocervical glands show Arias-Stella reaction instead of normal columnar mucinous lining, on low power microscopic examination, it simulates the tubules of clear cell carcinoma. And when these atypical nuclear features are seen in cystically dilated larger glands; the tubulocystic pattern of clear cell carcinoma is simulated. The cytological similarities between the two lesions are the presence of papillae and tufted epithelium. Cytological features like clear cells, hobnail cells, and cells with eosinophilic cytoplasm further add to the challenge, particularly if the pathologist is not aware that the patient is on progestational agents or is pregnant. Few distinguishing features⁷ which are of great help are 1. History of pregnancy 2. Spatial distribution of glands with normal. 3. absence of atypical mitosis 4. Smooth interface between the glands and the stroma. 5. Absence of desmoplasia or stromal reaction 6. Focal atypia with presence of benign glands in addition to the atypical glands. 7. Absence of prominent nucleoli.

In our case, history of recent delivery was known. The atypical glands were dominating the picture with occasional interspersed benign looking gland. There was no atypical mitosis and no stromal desmoplasia. Nuclei were hyperchromatic and there was no nucleolar prominence in the present case which concluded it to be Arias Stella Reaction.

The Arias-Stella reaction in the endocervix has been reported to occur more commonly in the upper endocervical canal and to more frequently involve superficial than deep glands. In our case too it was in the upper endocervical canal but to complicate the issue it was present in both superficial as well as the deep glands.

CONCLUSION:

The Arias Stella reaction is a pseudoneoplastic lesion. It can be a pathologist's nightmare especially in endocervical polyp and in the absence of clinical history.

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