Inflammatory Atypia

Case of a 44 years old female with a routine conventional PAP smear. Review of slide reveal cellular changes consistent with Inflammatory Atypia.

What is INFLAMMATORY ATYPIA?

A quick definition of Inflammatory Atypia is exhuberant inflammatory changes with features of ASC-US or resembling ASC-US.

Inflammatory Atypia cells are abnormal cells. If they are a form of ASC-US or not, it still uncertain with publications going both ways.

An easy approach is, smears showing atypia are normally classified in three main categories: inflammatory atypia (IFA), squamous atypia (ASC-US), and endocervical atypia (AGC).

TIP - The definition of atypia is based mainly on nuclear changes.

Let us define inflammatory atypia characteristics:

Nuclear Changes (more important) that may be present are:

1. Increase in nuclear size (2-3 times of that of an intermediate cell similar to ASC-US, if no intermediate cells are present use the size of a neutrophil).
2. Nuclear border tend to be regular and smooth.
3. Nuclear vacuolization.
4. Binucleation or multinucleation.
5. Chromating clumping.
6. Karyorrhexis
Cytoplasmic Changes that may be present

1. Vacuolization.
2. Decrease stain intensity.
3. Polychromasia.
4. Irregular borders.
5. Orangophilia.
6. Perinuclear halos (smaller than a koilo).

**TIP** – In inflammatory atypia there is moderate to severe inflammation in the background. If there is no inflammation think of ASC-US.

**Why inflammatory atypia?**

In many cases inflammatory atypia is seen on a Pap smear with and/or caused by bacterial vaginosis. Bacterial vaginosis has been suspected as a possible cofactor with human papillomavirus (HPV) in the development of cervical intraepithelial neoplasia (CIN)(LGSIL).

A study in Acta Obstetricia et Gynecologica Scandinavica, found that women whose Pap smears contained cells indicating BV had an increase in the incidence of CIN (LGSIL). The relative risk for having any CIN was 8.0, and the relative risk for having CIN III-carcinoma in situ was 5.0. Other authors refute these findings.

We just report the finding of IFA.
In a study that was conducted to correlate the initial cytologic diagnosis of IFA with the findings in colposcopically directed cervical biopsies and smears. It was found that on 70 women that had two consecutive smears reported as IFA; after all underwent colposcopy and cervical biopsy. That in 58 patients (83%) the biopsies and smears obtained during colposcopy were negative for condyloma and/or cervical intraepithelial neoplasia (CIN). Ten patients (14%) had condylomas, and two (3%) had condylomas with CIN (one CIN I and one II).

The initial IFA smears from those 12 patients were reviewed retrospectively: 2 showed condylomas (they had been undercalled), 5 were "suggestive of condyloma" (the atypical cells were too few or poorly preserved for a definitive diagnosis), and 5 showed IFA.

The authors suggest that colposcopy is warranted after two consecutive diagnoses of IFA on cervical smears, considering that 17% of the patients in their study showed underlying intraepithelial lesions of the cervix.