Reactive Changes and Organisms

INTRODUCTION

Any non-neoplastic findings and organisms in a Pap test, without cellular changes of preneoplasia or neoplasia, are mentioned under the interpretation/result category of “negative for intra-epithelial lesion or malignancy.”

NONNEOPLASTIC FINDINGS

- Reactive changes associated with inflammation, repair, and intrauterine device (IUD).
- Organisms.
- Glandular cells status-post-hysterectomy.
- Atrophy.
- Other nonneoplastic findings.

_Reactive Squamous Cells (Fig. 8.1)_

- Nuclei enlarged (approximately two times intermediate cell nuclei), round with smooth contours, mild hyperchromasia, and eosinophilia.
- Binucleation.
- Nucleoli may be prominent.
- Cytoplasm with small perinuclear halos.
- Polychromasia.

_Cytological Features of Repair and Regeneration (Fig. 8.2)_

- Epithelial regeneration in response to persistent irritation.
- Two-dimensional flat cohesive sheets with no overlapping “streaming effect.”
- Cells aligned in the same direction with a “school of fish appearance.”
- Cells are enlarged.
- Well-defined cell borders.
- Single cells are rare.
- Low nuclear-to-cytoplasmic (n:c) ratio.
- Nuclei are enlarged and rounded with a smooth membrane, and may be multiple in number.
- Fine chromatin.
- Nucleoli are single or multiple and prominent.
- Cytoplasm is abundant, cyanophilic or polychromatic, and vacuolated.
- Mitoses present.
- Neutrophils are often present.
- May mimic neoplastic lesions.
Fig. 8.1. Reactive regenerative cells. Note the uniform nuclei with nucleoli and mitoses (ThinPrep; Papanicolaou stain).

Fig. 8.2. Reactive reparative cells. Cohesive sheet of cells with "streaming" effect (SurePath; Papanicolaou stain).