**INTRODUCTION**

The term Atypical Glandular Cells (AGC) was introduced in the Bethesda system of reporting cytology in 2001. AGC is an uncommon diagnosis with reported incidence of 0.8% to 2.1%. It is more challenging and less reproducible compared to its squamous counterpart. Unlike AGC, the histologic correlates of AGC are not well defined. Although most AGC turns out to be benign or reactive, diagnostic criteria follow up, a significant subset predicts squamous and glandular pre-cancer and cancer.

Cervical Glandular Cancers, therefore, still pose a challenge to cervical cancer prevention initiatives and there is a reported increase in the incidence of the same.

Various studies attempted predicting the true behavior of AGC and formulation of optimum management guidelines. In this study we analyze the final and/or the worst outcome of all AGC diagnoses and evaluate the influence of age, presenting symptoms, coexisting squamous intraepithelial lesions (SIL), HPV status and type (16, 18 and Others) on the final outcome.

**METHOD**

- Approval from Institutional review board obtained.
- Retrospective study includes all AGC cases, diagnosed between January 2015 to December 2017, in Eastern Health, St. John’s, Newfoundland and Labrador, Canada.
- Cases subcategorized as per standard Bethesda system of reporting cervical cytology.
- Patient age, presenting symptoms including bleeding are recorded.
- Presence of co existing squamous intraepithelial lesion (SIL) included in each category of AGC. SILs are grouped as ASC-H, LSL and HSL.
- HrHPV status and HPV type (16, 18 or Other) recorded, when performed.
- All cervical cytology cases processed as SurePath™
- HrHPV testing done on Cobas 4800 HPV Assay.
- Follow up: Cytology, surgical pathology (Endocervical curettage, cervical, endometrial biopsy, loop electrosurgical excision, hysterectomy) are recorded until July 2018 to obtain the final outcome.
- Final benign outcome: polyps, microglandular hyperplasia, reactive atypia, endometrial hyperplasia, etc.
- Final malignant outcome: ASC-H/ HSIL or worse for squamous lesions, AIS or worse for endocervical lesions, Endometrial hyperplasia with atypia, carcinoma and other uncommon malignancies.
- Final intermediate outcome: ASC, LSIL, AEM.

**RESULTS**

- Affected age range 19-93 years; AEC category has the lowest mean (37.6) and the AEM category has the highest mean (53.5).
- AGC rate is 0.54% (n=710); AGC-NOS (38%) is the most common.
- AGC-FN (56.4%) and AEC-FN (57.9%) showed the highest rate of associated ASC-H/HSIL while AEM (0.9%) showed the lowest.
- HPV testing performed in 36% of patients and positive in 26% (n=66), with the most common HPV type being HPV Other (n=43). No AEM or patients with a significant endometrial outcome was HPV positive.
- Benign (n=405) and malignant outcomes (n=209) accounted for 57.0% and 29.5% of total cases respectively. Intermediate outcomes (n=56) made up 7.9% and no additional follow up (n=5.6%) was seen in 5.6% of the total cases.
- Most benign outcomes are pure glandular or with associated benign squamous lesion.
- Most malignant outcomes are squamous lesions, except in AEM.
- The majority of positive squamous outcomes were identified in women less than 40 years old (n=78; 67.8%) with HPV Other (n=60; 57.9%).
- Significant endometrial outcomes were found predominantly in women over 50 years old (n=36; 72.7%).
- Patients were symptomatic (n=44) in 20.6% of positive outcome with the majority (n=36) identified in women over 50 years old.

**CONCLUSIONS**

- Follow up of initial AGC diagnoses constitute a variety of benign and significant pathological outcomes affecting squamous, glandular, and rarely unknown malignant lesional.
- Common benign lesions diagnosed include polyps, cervicitis, microglandular hyperplasia.
- Uncommon malignant lesions include carcinoma in situ and malignant melanomas.
- Significant endometrial outcomes were found predominantly in asymptomatic women with negative HPV status. This emphasizes importance of screening cervical cytology or co-testing over primary HPV screening.
- Given the higher rate of positive squamous and endocervical glanular disease after initial AGC cytology, reflex HPV testing can be helpful for risk stratification, clinical management and follow up.

**REFERENCES**