UTILITY OF BIOMARKERS TO DIFFERENTIATE ADENOCARCINOMA OF THE UTERINE CERVIX FROM ITS MIMICS

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INTRODUCTION

- Endometrial adenocarcinoma invading the endocervix is histologically equivalent to cervical adenocarcinoma
- Several benign conditions of the cervix can mimic adenocarcinoma
- Cervical adenocarcinoma requires HPV infection; endometrial cancer is HPV negative
- Thus, we interrogated several biomarkers associated with HPV infection to determine if they could differentiate endocervical from endometrial adenocarcinoma

METHODS & MATERIALS

Patients and Tissue Samples

- Data was generated from the Discovery Life Sciences cervical HPV tool kit which was created from a large series of formalin fixed, paraffin embedded tissues. Endometrial cancer cases were also from DLS files.

Testing

- Each tumor was tested for HPV RNA by in situ hybridizationn
- Immunohistochemistry was done on the automated Bond Max for p16, Ki67, Mc1, importin-b, exportin-5, and PDL1
- All analyses were done by a Pathologist (GJN) blinded to the clinical and other pathologic information
- PDL1 was + if >10% of tumor or inflammatory cells were + ; other markers were + if >50% of tumor cells were +

RESULTS

HPV detection by PCR

- HPV RNA was detected in 28/30 cases of endocervical adenocarcinoma
- HPV RNA was detected in 0/30 endometrial adenocarcinomas

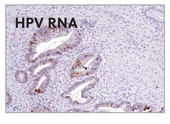
Immunohistochemical testing (Table 1)

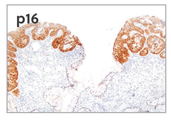
- Note there was no significant difference with Ki67 or importin-b expression between endometrial and endocervical adenocarcinoma
- Note highly significant increase in expression of p16, Mcl1, PDL1, and exportin-5 in adenocarcinoma of the cervix compared to the endometrial cancers

Table 1.

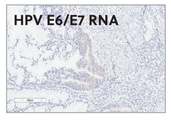
	P16+	PDL1+	Ki67 index	Mcl1+	Importin-b+	Exportin=5+
CERVICAL adenocarcinoma (n = 30)	**27/30**	**26/30**	**70.1** (11.2)	**27/30**	**22/30**	**22/30**
ENDOMETRIAL adenocarcinoma (n = 30)	**3/30**	**6/30**	**61.1** (13.5)	**11/30**	**16/30**	**13/30**
p value	< 0.001	< 0.001	–	< 0.001	–	< 0.003

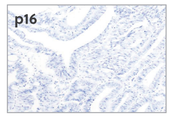
CERVICAL ADENOCARCINOMA



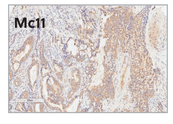


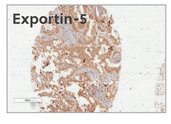
ENDOMETRIAL ADENOCARCINOMA



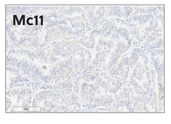


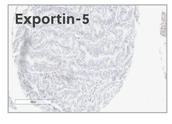
CERVICAL ADENOCARCINOMA





ENDOMETRIAL ADENOCARCINOMA





CONCLUSIONS

1. Cervical adenocarcinoma, strongly associated with HPV infection, showed significantly increased expression of p16, as expected, which served as an internal + control
2. Cervical adenocarcinoma also showed significant increase in PDL1 expression compared to endometrial cancer, suggesting it may be amenable to anti PDL1 therapy
3. Adenocarcinoma of the cervix can be differentiated from endometrial adenocarcinoma invading the cervix by a panel of biomarkers including p16, Mcl1, PDL1, and exportin-5