The comparison of immunohistochemical localisation and reactivity of carcinoembryonic antigen in endocervical adenocarcinoma, endometrial adenocarcinoma and benign cervical glandular lesions

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pifferential diagnosis of endocervical, endometrial and benign cervical glandular lesions is important as their prognosis ₄pd treatment are quite different. There are some problems in differentiating these lesions by conventional methods. For f7l's reason, carcinoembryonic antigen, a specific tumor marker for some malignant lesions was detected on tissue sections of 10 endocervical, 10 endometrial adenocarcinomas, 10 microglandular endocervical hyperplasia, 5 mesonephric duct remnants, 5 adenomyosis and 5 tunnel clusters by immunohistochemical staining. There was cytoplasmic staining in 9 of 10 endocervical adenocarcinomas, apical staining in 3 of 10 endometrial adenocarcinomas and only cytoplasmic staining in squamous fields of adenosquamos carcinomas. [Turk J Med Res 1994; 12 (3): 139-141]

I<ey Words: Adenocarcinoma, Carcinoembryonic antigen, Cervix, Endometrium

gndocervical microglandular hyperplasia (EMH), niesonephric duct remnants (MDR), adenomyosis, endocervical tunnel clusters (ETC) which are benign glandular lesions of cervix cause diagnostic difficulties due to histopathological similarity with endometrial adenocarcinomas (EAC) and cervix adenocarcinomas (1-6). Since their treatment and prognosis are different, carcinoembryonic antigen (CEA) has been used in their differential diagnosis from cervix adenocarcinomas recently (1-3).

It is accepted that CEA is a specific marker for ₛome neoplasms and the embryonic tissue of endoderpial epithelial origin. CEA is also used as a marker in gynecological neoplasms besides the gastrointestinal ₛnd other neoplasms (1-3,7).

CEA is positive in endocervical adenocarcinomas whereas it is negative in endometrial malignancies and penign endocervical lesions (1-3). The cause of the important role of CEA in gynecological malignancies is ₁hat sometimes the structures from endometrium, endocervix and exocervix are mixed in the curettage material and thus the origin of tumoral lesion can not always be determined . In these cases the origin of ₁₀rnoral lesion can be defined by the use of CEA.

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In this paper we studied the CEA immune reactivity and localization in the endocervical adenocarcinomas, endometrial adenocarcinomas and the other benign cervical glandular lesions (microglandular endocervical hyperplasia, mesonephric duct remnant, adenomyosis and endocervical tunnel clusters) diagnosed in our clinic. We discussed the results in the light of the literature.

MATERIALS AND METHODS

10 cases of endocervix adenocarcinoma (one of which was mesonephroid adenocarcinoma), 10 cases of endometrial adenocarcinoma (three of which were adenosquamous carcinoma), 10 cases of endocervical microglandular hyperplasia, 5 cases of adenomyosis, 5 cases of mesonephric duct remnants and 5 cases of tunnel cluster diagnosed in the Pathology Department of Medical School of Erciyes University, between 1991 and 1993 were included in this study. The hematoxilene-eosin préparâtes of all cases were reexamined and when needed, new sections were prepared. Then 5 micron sections were made from paraffin blocks and stained with streptavidin-biotin immune peroxidase technique for CEA. Immunstain kits were used as the technique and DAB was used as chromagen. Meyer hematoxilene was used to demonstrate the nuclei in the préparâtes. They were examined by light microscope. Cytoplasmic staining was accepted as positive. The staining of cytoplasmic border was noted as negative.

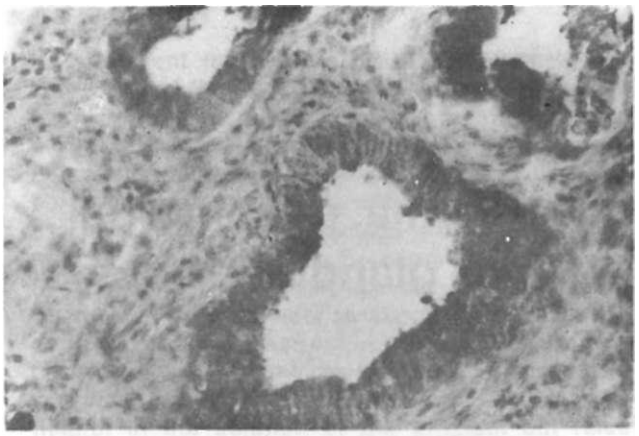

Figure 1. Positive cytoplasmic and apical staining of CEA in tumor cells of endocervical adenocarcinoma. ABC stain (X200).

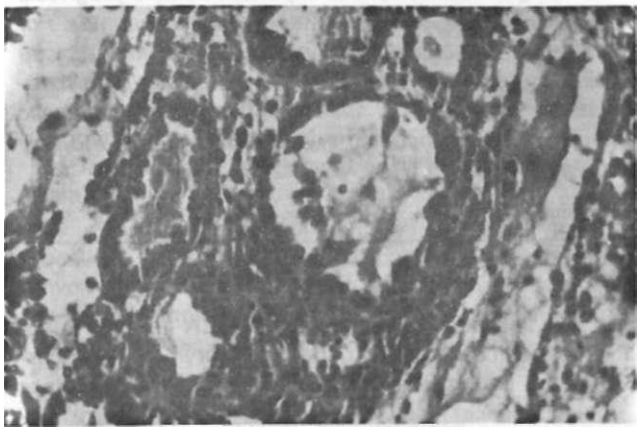

Figure 2. Mesonephroid endocervical adenocarcinoma. HE

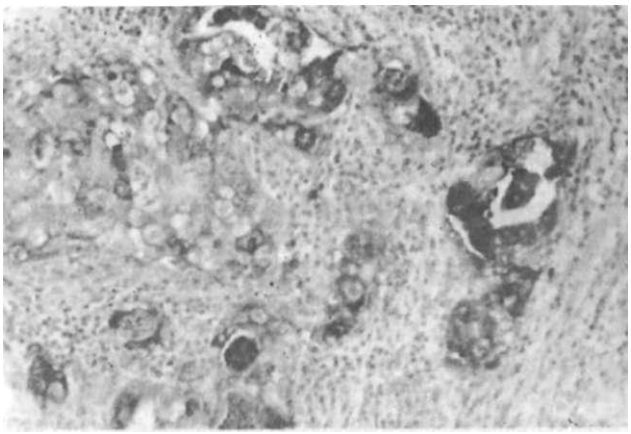

Figure 3. Positivity ot CEA at squamous component ot endometrial adenosquamous carcinoma. ABC stain (X100).

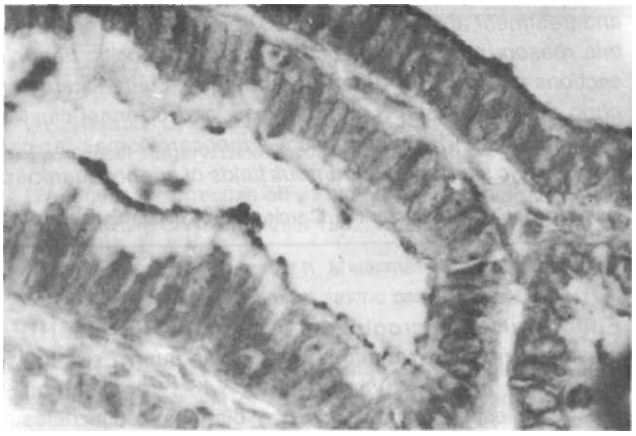

Figure 4. Apical staining of CEA at endometrial adenocarcinoma. ABC stain (X200).

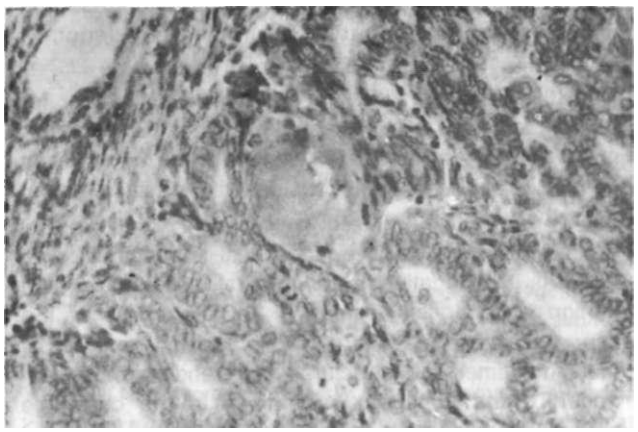

Figure 5. CEA positivity at the focus of squamous metaplasia of endometrial adenocarcinoma ABC stain (X200).

RESULTS

CEA was found to be positive in the cytoplasm and the cytoplasmic border in 9 of 10 endocervical adenocarcinoma cases (Figure 1). CEA was negative in one case diagnosed as mesonephroid adenocarcinoma (Fig. 2). CEA was only positive in the squamous areas in 3 cases diagnosed as adenosquamous carcinoma among 10 endometrial addenocarcinomas (Fig. 3). CEA was found to be positive in the apical region in 3 of endometrial adenocarcinomas (Fig. 4). Small sections of squamous metaplasia observed in adenocarcinoma cases were also stained as cytoplasmic positive (Fig. 5). CEA was negative in the other endometrial adenocarcinoma cases. Apical weak positivity was observed only in one case of microglandular endocervical hyperplasia whereas it was negative in the other cases, Negative results were obtained in 5 adenomyosis cases, 5 mesonephric ductus remnants and 5 tunnel cluster cases.

DISCUSSION

It is very important to differentiate endocervical adenocarcinomas from benign endocervical glandular

lesions. It is also important to differentiate endometrial adenocarcinomas since their treatments are different. So the immune histochemical methods have been used in the differentiation of these lesions (1-7). CEA has been accepted as a specific marker for embryonic tissues and some neoplasms of endodermal epithelial origin (1,2,7,8). It has has been used in the diagnosis of the gynecologic malignancies recently too. It was recorded that CEA was positive in endocervical adenocarcinomas and that it was negative in endometrial adenocarcinomas and benign endocervical glandular lesions (1-3,7). We observed that CEA was negative in normal endocervical epithelium, it showed weak cytoplasmic staining in squamous epithelium and there was apical staining in squamous epithelium and in normal endometrial epithelial cells and cytoplasmic positive staining in neutrophils in our control stainings. These observations were also true for the tumoral and other lesions. We observed positive staining in cytoplasm and cytoplasmic border in cases of endocervical adenocarcinomas (except the case diagnosed as mesonephroid adenocarcinoma), whereas all of the benign endocervical lesions gave negative results. CEA negativity in mesonephroid adenocarcinoma is explained by its histogenetic relation to endometrium (8). We observed positive result in cytoplasmic border in glandular epithelium and weak cytoplasmic positivity in squamous epithelium in endometrial adenocarcinoma and adenosquamous carcinoma.

Although Bychkov et al (8) reported that normal cervical epithelium, reactive basal hyperplasia and squamous metaplasia were not stained adequately with CEA and that they observed positive staining in various degrees in non-invasive and invasive squamous tumors, we showed positive staining in various degrees in normal, metaplastic and tumoral cervical squamous epithelium. So we think that the positivity or the degree of positivity of CEA in cervical squamous epithelium can not be suggestive for a squamous neoplasm. Wahlstrom et al (2) found that CEA was positive in 80% of endocervical adenocarcinomas and in 8% of endometrial adenocarcinomas. They also said that the mesoneproid adenocarcinoma in endocervix and adenosquamous carcinoma in endometrium effected the results.

As a result the idea of CEA being a new method that can be used routinely in the differentiation of endocervical adenocarcinomas from endometrial adenocarcinomas and benign glandular cervical lesions has been widely accepted. Our results also support this idea, but some lesions (mesonephroid adenocarcinoma and adenosquamous carcinoma) should be excluded from this generalization.

Endoservikal adenokarsinom ile endometrial adenokarsinom ve serviksin benign glandüler lezyonlarmda karsino embryonik antijen (CEA) immunoreaktivitesinin ve lokalizasyonunun karşılaştırılması

Endoservikal adenokarsinomlan endometrial adenokarsinom ve benign servikal glandüler lezyonlardan ayırmak tedavi ve prognozları farklı olduğu için son derece önemlidir. Bu iezyonların ayrılmasında geleneksel metodlarda bazı güçlüklerle karşılaşılmaktadır Bu nedenle oldukça spesifik bir malign tümör işaretleyicisi olan karsinoembryonik antijen immunohistokimyasal olarak 10 endoservikal adenokarsinom, 10 endometrial adenokarsinom, 10 mikroglandüler endoservikal hiperplazi, 5 mezonefrik duktus kalıntısı, 5 adenomyoz ve 5 tünel kümesine uygulandı. 10 endoservikal adenokarsinomun 9'unda sitoplazmik pozitif boyanma izlenirken, 10 endometrial adenokarsinomun 3'ünde apikal ve 3 adenoskuamöz karsinomun sadece skuamöz alanlarında sitoplazmik boyanma izledik. [Turk J Med Res 1994; 12(3): 139-141]

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