

Pathology Congress 2017: Comparison of E-cadherin/Beta-catenin complex in inflammatory nasal polyps, sinonasal inverted papilloma and nasopharyngeal carcinoma - Rabia Butt - Chughtai Lab, Pakistan.

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Cell-cell junctions are important for maintaining the polarity and integrity of cells and tissues. The E-cadherin / beta-catenin complex plays an important role in maintaining epithelial integrity. The disruption of this complex not only affects the adhesive properties of cells, but also activates the Wnt signaling pathway, which is observed in many malignant tumors and fibrotic disorders. We conducted this study to compare the deregulation of this complex of inflammatory nasal polyps (INP), reverse nasal papilloma's (PID) and pharyngeal carcinomas of Naso (NPC). A cross-sectional study was carried out on 82 cases, extracted from the archives of Chughtai Lab, Lahore, including 68 cases of INP, 9 cases of SIP and 5 cases of NPC using an improbable consecutive sampling technique. Our study showed deregulation of this complex in 19 (27.9%) cases of INP, which were mainly accompanied by fibrosis, 7 (77.8%) cases of PID and in 5 cases (100%) of NPC. Nuclear staining was evident in the 5 cases of NPC. Our study concluded that this complex is deregulated in NPIs associated with fibrosis and in neoplastic disorders. Deregulation of the E-cadherin / beta-catenin complex may be involved in the recurrence and malignant transformation of INP and SIP. Therefore, close monitoring is necessary for these patients with INP and PID, to prevent recurrence and progression of the disease.

Nasopharyngeal carcinoma (NPC), or cancer of the nasopharynx, is the most common cancer originating from the nasopharynx, most often in the posterolateral nasopharynx or pharyngeal cavity (Rosen Müller fossa), accounting for 50% of cases. NPC occurs in children and adults. NPC differs considerably from other head and neck cancers in its occurrence, causes, clinical behavior and treatment. It is much more common in parts of East Asia and Africa than elsewhere, with viral, dietary and genetic factors involved in its causation. It is more common in men. It is an undifferentiated type

squamous cell carcinoma. Squamous epithelial cells are a flat type of cells found in the skin and membranes that line certain body cavities. Differentiation means the difference between cancer cells and normal cells. Undifferentiated cells are cells that do not have their mature characteristics or functions

Causes:

NPC is caused by a combination of factors: viral, environmental influences and inheritance. Viral influence is associated with infection with the Epstein-Barr virus (EBV). The Epstein-Barr virus is unique of the furthestmost collective viruses. In the United States, 95% of all people are exposed to this virus by the time they are between 30 and 40 years old. The World Health Organization has not put in place preventive measures for this virus because it spreads so easily and is global. The Epstein-Barr virus very rarely leads to cancer, which suggests a variety of influencing factors. Other likely causes include genetic sensitivity, consumption of food (especially salted fish) containing volatile carcinogenic nitrosamines. Various mutations that activate NF- κ B signaling have been reported in almost half of the cases of NPC studied

The association between Epstein-Barr virus and nasopharyngeal carcinoma is unequivocal in World Health Organization (WHO) type II and III tumors, but less well established for type I NPCs. WHO (WHO-I), where a preliminary assessment suggested that the human papilloma virus (HPV) may be associated. EBV DNA was detectable in blood plasma samples from 96% of patients with non-keratinizing PNC, compared to only 7% in controls. Detection of the nuclear antigen associated with Epstein-Barr virus (EBNA) and viral DNA in type 2 and 3 NPCs, revealed that EBV can infect epithelial cells and is associated with their transformation. The cause of AFN (especially the endemic form) seems to follow a multi-step process, in

which EBV, ethnicity and environmental carcinogens all seem to play an important role. Most importantly, EBV DNA levels appear to be correlated with response to treatment and can predict recurrence of the disease, suggesting that they may be an independent indicator of prognosis. The mechanism by which EBV modifies nasopharyngeal cells is elucidated to provide a rational therapeutic target.

A papilloma (plural papilloma or papilloma's) (papilla +) is a benign epithelial tumor developing epiphytically (projecting outward) in fronds resembling nipples and often fingers. In this context, the papilla refers to the projection created by the tumor, not to a tumor on an already existing papilla (like the nipple). When used without context, it often refers to infections (epidermoid papilloma) caused by the human papillomavirus (HPV), such as warts. Human papillomavirus contamination is a chief source of cervical cancer, although most HPV infections do not cause cancer. There are, however, a sum of further conditions that origin papilloma, as well as many cases in which there is no known cause.

Signs and symptoms:

A benign papillomatous tumor is derived from the epithelium, with cauliflower-like projections that originate from the mucosal surface. It may appear white or normal in color. It can be pedunculated or sessile. The average size is between 1 and 5 cm. Neither gender is much more likely to develop them. The most frequent site is the region of the palate uvula followed by the tongue and lips. The durations vary from weeks to 10 years.

Cause:

Peroxidase immune stains have identified human papilloma virus (HPV) antigens types 6 and 11 in approximately 50% of cases of epidermoid papilloma.

Prognosis:

There is no evidence that papilloma's are precancerous. We are also studying whether chronic sinusitis could be a potential cause of nasopharyngeal cancer. It is assumed that this can happen in a similar way to how chronic inflammatory conditions in other parts of the body, such as esophagitis sometimes lead to Barrett's

esophagus due to conditions such as gastric reflux - esophageal.

Biography: Rabia Butt received her MBBS from the University of Health Sciences in Pakistan in 2006. She completed her postgraduate training at the Services Institute of Medical Sciences and completed her training in 2012. She is also a member of the Academy international cytology. Currently, she works as a consultant histo pathologist, department coordinator and head of the postgraduate residency program (FCPS) in histopathology at Chughtai Lab, Lahore, Pakistan.