TOPICAL ISSUES OF MODERN GASTROINTESTINAL ONCOLOGY

Ivan Reva[1,2], Oleg Pererva[1], Iliya Kalinin[1], Yuriy Krasnikov[1], Tamara Agapova[1], Oleg Kalinin[1], Vladimir Kozhukhar[3], Ernest Valkovich[3], Galina Reva[1]

[1]Far Eastern Federal University, Vladivostok, Russia
e-mail: avers2@yandex.ru.;
[2]International Medical Education and Research Center (IMERC), Niigata, Japan
[3]St. Petersburg State Pediatric Medical University, St. Petersburg, Russia

The research was supported by the FEFU Science Foundation under the state task 17.5740.2017/6.7.

Oleg Pererva

INTRODUCTION

According to statistics the gastric cancer is one of the leading causes of cancer death [1]. Cancers of the orpharyngeal tissues, esophagus, stomach and colorectal are among most common causes of death throughout the world. Every year more than 1 million people were diagnosed with gastric cancer. In the Russian Federation gastric cancer takes 3rd place after lung cancer and skin cancer and makes 32 cases per 100 000 population per year. The main problem is that its genesis is not well studied. We did not find enough information about changes in immune homeostasis of gastric mucosa So far, the issues of the nature of cancer cells have been the subject of heated discussions, the questions of transformation of the genome of the cambium of the original tissue have not been solved or proven, nor oncogenes and anti-oncogenes in the genome of cancer cells have been found, as they are normally present in all cells and regulate apoptosis and proliferative activity in norm. The viral concept of L.A. Zilber, supplemented by the author with immunology of cancer, still has both supporters and opponents based on the grounded laws of the Snell transplantation, which in principle reject the presence of antitumor immunity. in terms not only of reparative regeneration, but also physiologic. Data on the achieved respectable overall survival when using the OTSGC-A24 cancer vaccine in patients with advanced stomach cancer require additional studies. Johnson IT. Cruciferous believe that there are many concepts of carcinogenesis in the gastrointestinal tract, one of them is based on risk groups with malnutrition and cites evidence of a lack of cancer due to inadequate intake of plant foods [3].

Lam SY, Yu J, Wong SH, Peppelenbosch MP, Fuhler GM. (2017) attempted to associate carcinogenesis with the microbiota of the gastrointestinal tract [4].

Flanagan DJ, Austin CR, Vincan E, Phesse TJ. argue, like other researchers Wnt signaling regulates several cellular functions including proliferation, differentiation, apoptosis and migration, and is critical for embryonic development [2]. Stem cells are defined by their ability for self-renewal and the ability to be able to give rise to differentiated progeny. Consequently, they are essential for the homeostasis of many organs including the gastrointestinal tract. But these signaling paths have been studied only in experiments on insects and animals, the influence of the same signals in the human body on genomic transduction is under question.

Consciousness of the problem of mechanisms of carcinogenesis at the present stage puts these urgent issues on the agenda, requiring immediate resolution. This determined the direction of our research.

METHODS

Biopsy material obtained from cardia, gastric body, antrum and fundus according the Sydney's recommendation as the gold standard of the World Health Organization. Analysis of results carried out in according with the criteria of the morphologic section the Sydney classification, supplementing the international gastritis classification and visual-analog scale with semi quantities evaluation standards of morphologic changes of microbes media, as well as the presence of spontaneous recovery of 98% in the case. Biologic samples and gastric biopsy material were obtained at the 203 upper GI-scope for patients ranging in age from 34 to 78 years in time from 2004 to 2017,

on the basis of four medical hospitals in Vladivostok (Russia), for patients with gastric complains and without any manifestations.

We research next immunocytes: CD4 – T-helpers and other cells: CD5 –activity cells ; CD8 – T-killers; CD10 –stem cells antigen (OLL); CD34-mobilized blood stem cells (OML, OLL, endothelial cells, GIST) ; CD117 Marker GIST; CD 68 – Macrophages. Antigen presentation; CD 163 – Macrophages; CD 204 – Mast cells; c-kit –receptor factors stem cells.

RESULTS

The existence of HBP was determined using microbiologic and molecular-genetic examinations of selected strains helicobacter pylori with subsequent analysis on pathogenic microorganism genes in the genome. HBP infection received additional confirmation using immune histochemical techniques using antibodies to helicobacter. Additional proof of the blood came from helicobacter using scanning electron microscopy. The results of their observations. Microbiological method research gave HBP culture from 95% (193 из 203) patients who are using the molecular-genetic analysis have been described as Cag A-, Vac A- positive stains with established *cag* PAI and *cag A* gene: AAABC Cag A, severe type and truncated (shortened) ABC Cag A, type of unknown function. It was showed, T-cells more, then B cell, and CD4+- more, then CD8+. In epithelial layer are T-cells with high content γδ-population (– 15–30%), rapid dominance CD8+-cells over CD4+, the presence of unusual subpopulations of cells. A portion of these T-cells not in the thymus develops, but in mycropatch, are localized in intestinal. Using immune histochemistry revealed the different phenotypes of cells monocytes on differons CCM, and connective tissue mast cells in the mucosa's own discs. Immune histochemistry was identifycate the HBP, gene activity Ki67, CD4, CD5, CD8, CD10, CD34, CD68, CD117, CD163, CD204, c-kit –receptor factors stem cells, mine hazard firm DAKO to illustrate and further comparative analysis the dynamics of disease in different periods.

The virulence genotype of *H. pylori* in the Far Eastern Russia is mostly *cagA*+ and *vacA*+ (s1/m1). *cagA* modification is European type (ABC), distinct from Japan (type ABD). Metronidazole resistance of *H. pylori* is prevalent in Russia, in contrast to Japan.

Participation in the immunocytes feature provided mechanisms for restructuring of connective and epithelial structures woven own LPs at physiological and mucosal reparative regeneration of the stomach wall. Identification of immune cells was carried out on the same circuit, despite the different antigen location in cellular structures: membranes, lysosomes, nucleus, Golgi complex just as us growth and rejuvenation of stomach cancer, registered a case of cancer in women 36 years.

As other authors, we find increasing the number of infiltrate type cancer. Carcinogenesis marked with the same frequency in patients without previous gastric ulcers, they had gastritis: Erosive – ulcerative or atrophic.

DISCUSSION

Dynamics changes of macrophage in stomach wall infiltration responded to increased proliferative activity of epithelial mucous membrane, and was highest when the proliferative activity has dropped due to the depletion of the cambium. Single work focused on phenotypes cell infiltration mucous membrane stomach and tumors [7].

Immunocytes in normal tissue are in epithelial layer in a small number of. With Helicobacter pylori infection the number of the disc in the epithelial immunocytes proliferative activity is increasing. When metaplastic cancer and effector immunocyties absent in the epithelial layer reservoir and large quantities are identified in your own disc of mucous membrane. With salinization free the increasing number of CD cells c-kit –receptor factors stem cells.

CONCLUSION

The following problems in the fight against malignant neoplasms have to be solved : a lack of effective preventive strategies to control risk factors or effects on pre-tumor lesions; lack of optimal methods for early detection of clinically significant localized tumors for their subsequent radical treatment; lack of low-traumatic and effective methods of treatment of early cancer; The lack of medicines to effectively treat common tumors; and, finally, with the abundance of methods available to the oncologist, we still cannot say in each specific case which of them will be most effective in a particular patient [6]. Modern ideas about mechanisms of carcinogenesis do not correspond to the needs of practical public health, there is a need to revise existing deadlock concepts of malignancy and formation of tumors in the human body as a whole for the development of pathogenically substantiated methods of treating this formidable pathology [8].

In total, 1 383 066 cases were analyzed by Okuyama A, Higashi T.(2018). They found that based on this cancer registry-based analysis, older patients-in particular those ≥85 years old at diagnosis and with advanced stage cancer-are less likely to receive anticancer treatment than younger patents are. Further research is warranted to identify patient characteristics that predict which older patients are most likely

to benefit from active treatment [5].We have similar data that in patients over 80 years of age, the forms of cancer are less aggressive. To a greater extent, the accompanying pathological processes are combined in the clinical picture.

REFERENCES

1. **Chen JG, Chen HZ, Zhu J, Yang YL, Zhang YH, Huang PX, Chen YS, Zhu CY, Yang LP, Shen K, Qiang FL, Wang GR.** Cancer survival in patients from a hospital-based cancer registry, China.//J Cancer. 2018 Feb 12;9(5):851–860.
2. **Flanagan DJ, Austin CR, Vincan E, Phesse TJ.** Wnt Signaling in Gastrointestinal Epithelial Stem Cells.//Genes (Basel). 2018 Mar 23;9(4).
3. **Johnson IT.** Cruciferous Vegetables and Risk of Cancers of the Gastrointestinal Tract.//Mol Nutr Food Res. 2018 Mar 23:e1701000. doi: 10.1002/mnfr.201701000
4. **Lam SY, Yu J, Wong SH, Peppelenbosch MP, Fuhler GM.** The gastrointestinal microbiota and its role in oncogenes is.//Best Pract Res Clin Gastroenterology. 2017 Dec;31(6):607–618.
5. **Okuyama A, Higashi T.** Patterns of cancer treatment in different age groups in Japan: an analysis of hospital-based cancer registry data, 2012–2015.//Jpn J Clin Oncol. 2018 Mar 26. doi: 10.1093/jjco/hyy032
6. **Sundar R, Rha SY, Yamaue H, Katsuda M, Kono K, Kim HS, Kim C, Mimura K, Kua LF, Yong WP.** A phase I/Ib study of OTSGC-A24 combined peptide vaccine in advanced gastric cancer.//BMC Cancer. 2018 Mar 27;18(1):332.
7. **Woo J, Lee JH, Lee KE, Sung SH, Lim W.** Gastric Metastasis as the First Presentation One Year Before Diagnosis of Primary Breast Cancer.//Am J Case Rep. 2018 Mar 26;19:354–359.
8. **Zanotti D, Baiocchi GL, Coniglio A, Mohammadi B, Ministrini S, Mughal M, Tiberio GAM, Dawas K.** Follow-up after surgery for gastric cancer: how to do it.//Updates Surg. 2018 Mar 26. doi: 10.1007/s13304-018-0524-6.