THE STUDY OF KALLIKREIN KININ SYSTEM COMPONENTS ACTIVITY IN PATIENTS WITH CHRONIC PELVIC PAIN SYNDROME

Kogan M.[1], Mikashinovich Z.[2], Shangichev A.[1], Chernogubova E.[2], Belousov I.[1]

[1]Rostov State Medical University, Department of Urology, Rostov On Don, Russia, [2]Rostov State Medical University, Department of Biochemistry, Rostov On Don, Russia

INTRODUCTION & OBJECTIVES: Activation of kallikrein-kinin system (KKS) is paramount importance with the onset of inflammatory processes. This research objective was to study kallikrein-kinin system activity in blood serum and prostate gland secretion in patients with chronic pelvic pain syndrome (CPPS) for definition of a role of an inflammation in development of CPPS.

MATERIAL & METHODS: Kallikrein and prekallikrein content, total arginine–esteraseactivity, a_1–proteolytic inhibitor and a_2 – macroglobulin content in blood serum and prostate gland secretion in 48 patients with CPPS were determined. The patients were divided in two groups. 24 Patients with IIIA form of CPPS constituted the first group, 24 patients with IIIB form of CPPS formed the second group. The control group - 10 healthy people.

RESULTS: At IIIA and IIIB forms an increase in the maintenance of kallikrein on 16%, but decrease in the contents of prekallikrein on 10% in blood serum was determined. Total arginine–esterase activities of blood serum do not differ from such in the control group. In IIIB form of CPPS kallikrein activity and kallikrein formation factor is accordingly 1.45 ($p<0.001$) and 1.69 ($p<0.001$) times higher than in IIIA form of CPPS. Content of a_2-macroglobulin in blood serum in IIIB form is 1.57 ($p<0.001$) times reduced compared to IIIA form. In patients with CPPS, components of KKS are present in prostate gland secretion. In normal prostate gland, they are absent. Thus, in IIIA form contents of kallikrein, prekallikrein and total arginine–esterase activity are 3.45 ($p<0.001$), 3.80 ($p<0.001$) and 2.75 ($p<0.001$) times higher than corresponding characteristics in IIIB form. In IIIA form a_2-macroglobulin is determined, but it is absent in IIIB form.

CONCLUSIONS: IIIA and IIIB form have various pathophysiology. Presence of KKS components in prostate gland secretion is the evidence of inflammation and disorder of hematoprostatic barrier permeability in patients with CPPS.