AB043. P-11. Autoantibody screening in sera of patients with cholangiocarcinoma by serological proteomic approach

Mohammad Zahid Mustafa[1,2], Zunera Tanveer[3], Eric Ballot[2,4]

[1]Center for Advanced Studies in Vaccinology and Biotechnology (CASVAB), University of Balochistan, Quetta, Pakistan; [2]Inserm, Unité 1193, Université Paris-Saclay, Villejuif, France; [3]Department of Physiology, Bloan University of Medical and Health Sciences, Quetta, Pakistan; [4]Département d'Immunologie Biologique, Unité d'autoimmunité, AP-HP Hôpital Saint Antoine, Paris, France

Correspondence to: Mohammad Zahid Mustafa. Center for Advanced Studies in Vaccinology and Biotechnology (CASVAB), University of Balochistan, Quetta, Pakistan. Email: drzahid.casvab@uob.edu.pk.

Background: Cholangiocarcinoma (CCA) is the second most common primary hepatic neoplasia. Antibodies are normally produced in response to a foreign protein or substance within the body. Autoantibodies can be used clinically for cancer detection which can be identified by proteomic analysis of tumor associated antigens (TAAs) that are potentially involved in malignant transformation. The purpose of the present study was to detect the autoantibodies in sera of patients with cholangiocarcinoma by serological proteomic approach for early cancer diagnosis.

Methods: Serum samples were obtained from 9 patients with CCA and sera from 5 healthy volunteers were used as controls. The European Cell Culture Line provided the two human cholangiocarcinoma cell lines (CCSW1 and CCLP1). Histologically, both originate from extra-hepatic bile duct adenocarcinoma. The protein concentration of the samples was determined using the 2D Quant kit. Proteins were separated using 2-DE (2-dimensional gel electrophoresis). Then proteins were transferred on to nitrocellulose membrane and proteins were detected using enzyme conjugated secondary antibody and ECL substrate (enhanced chemiluminescent) generated signals were visualized by X-films. Siler staining was used to see the migration pattern on gels.

Results: 2-D electrophoresis maps of CCA cell lines shown different protein distributions. After silver staining, an average of 160–180 spots were detected from CCSW1, mainly between pH 4 and 8, with molecular weight ranging from 40 to 90 kDa. With CCLP1, between 80 and 100 spots were distributed in acidic parts of the map with MW from 20 to 90 kDa. By comparative blotting analysis, four common immunoreactive spots were found in CCSW1 blots with and two out of nine CCA patient sera but not with control sera, whereas two common immunoreactive spots were found only with control sera (n=4). With CCLP1, no common spot found between the immunoblots with CCA sera (n=5).

Conclusions: The detected immunoreactive protein spots might correspond to the autoantibodies produced to the homologous TAAs. These immunoreactive protein spots might be identified by mass spectrometry and used clinically for early CCA diagnosis.

Keywords: Autoantibody; cholangiocarcinoma; proteomic approach

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