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Editorial

Challenge for Treatment of Unresectable Pancreatic Cancer

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Patients with pancreatic cancer have an especially poor prognosis, with a 5-year survival rate of < 1% and a median survival of 4-6 months. The management of patients with pancreatic cancer depends on the extent of the disease at diagnosis. However, at the time of diagnosis the vast majority of pancreatic cancers are at an advanced disease state, and surgical resection with curative intent is indicated in less than 10% of such patients [1, 2]. Unfortunately, a cure for pancreatic cancer is still elusive and current opportunistic screening strategies are not yet effective. In 2007, we planned a study for an early detection of pancreatic cancer using image diagnosis. The study was to compare Diffusion-Weighted magnetic resonance Imaging (DWI) and Multi Detector-Row Computed Tomography (MDCT) for detection of primary pancreatic cancer. By reviewing the images of patients at high risk for pancreatic cancer with Main Pancreatic Duct (MPD) dilatation was shown by Magnetic Resonance Cholangio Pancreatography (MRCP). We concluded performance of DWI and MDCT that was equivocal for detection of pancreatic cancer in a high risk population with MPD dilatation. The combination of MRCP and DWI for detection of pancreatic cancer allowed the identification of a high-risk population and tumor detection with a single imaging modality without any need for contrast medium [3].

Although many researches for early detection of pancreatic cancer have been progressed in the world, our impression was to find any tools for an early detection of pancreatic cancer such as tumor marker, new biomarker, and each image modalities that have not been in decisive status, including our study.

Now, gemcitabine-based chemotherapy is typically offered as a standard of care. However, most patients treated with gemcitabine alone do not survive longer than 6 months, as the tumor cells are naturally resistant to current chemotherapy. Importantly, the tumors that develop gemcitabine resistance would still be a suitable target for immunotherapy. Moreover, we recently reported that gemcitabine sensitized the pancreatic cancer cells with WT1 specific T cell-mediated antitumor responses *in vitro*. Therefore, cancer immunotherapy for pancreatic cancer may be one of the attractive approaches to the treatment. Pancreatic cancer cells express tumor-associated antigens such as Wilms' Tumor gene 1 (WT1). We reported that combination therapy of DC-based immunotherapies with gemcitabine/S-1 was effective in patients with advanced pancreatic cancer refractory to standard chemotherapy. In this study, 38 out of 49 patients have received vaccination with WT1 peptide pulsed Dendritic Cells (DCs) with or without combination of other peptides such as MUC1, CEA and CA125. Prior to this combination therapy, 46 out of 49 patients have been treated with chemotherapy. In spite of these abnormal conditions, of 49 patients, 2 patients showed CR, 5 PR, and 10 SD, and median survival time was 360 days [4]. Importantly, the blockade of immunological checkpoints with monoclonal antibodies specific for programmed cell death 1 (PD-1) and its ligands, PD-L1 and PD-L2, or cytotoxic T lymphocyte-associated protein 4 (CTLA4) might be emerging as a promising immunotherapeutic strategy against pancreatic cancer.

Additionally, we treated a patient under hemodialysis with advanced pancreatic cancer and reported as one of important case to suggest new guidelines of appropriate gemcitabine dosing modification for these patients [5].

In these days, many precious studies about new treatment of advanced pancreatic cancer have been demonstrated in the world and we hope to carry out the crucial, effective treatment for these patients and to extend their life expectancy.

REFERENCES

1. Li D, Xie K, Wolff R, Abbruzzese JL. Pancreatic cancer. Lancet. 2004; 363: 1049-1057.
2. Jemal A, Siegel R, Ward E, Hao Y, Xu J, et al. Cancer statistics, 2008. CA Cancer J Clin. 2008; 58: 71-96.
3. Takakura K, Sumiyama K, Munakata K, Ashida H, Arihiro S, et al. Clinical usefulness of diffusion-weighted MR imaging for detection of pancreatic cancer: comparison with enhanced multidetector-row CT. Abdom Imaging. 2011; 36: 457-62.
4. Koido S, Homma S, Takahara A, Namiki Y, Tsukinaga S, et al. Current immunotherapeutic approaches in pancreatic cancer. Clin Dev Immunol. 2011; 267539.
5. Takakura K, Koido S, Takahara A, Odahara S, Mitobe J, Matsudaira H, Tsukinaga S, Yukawa T, Matsumoto K, Nagatsuma K, Uchiyama K, Kajihara M, Ohkusa T, Tajiri H. Long-term management of gemcitabine in a patient with advanced pancreatic cancer undergoing hemodialysis. J Chemother 2013 in press.