SHORT COMMUNICATION

# Commentary on Prospective Multicenter Surveillance Study of BD-IPMN of the Pancreas

**Masao Tanaka***

Shimonoseki City Hospital, Koyo-cho 1-13-1, Shimonoseki, Yamaguchi 750-8520, Department of Surgery and Oncology, Graduate School of Medical Sciences, Kyushu University, Fukuoka 812-8582, Japan

## INTRODUCTION

TIntraductal Papillary Mucinous Neoplasm (IPMN) of the pancreas was first reported from Japan 45 years ago [1, 2]. It was called "mucin-producing tumors of the pancreas" at that time. Although it has also been called by many names other than this, it has undergone historical changes and has now been standardized to IPMT [3] and then the current term IPMN [4].

The most interesting and striking feature of IPMN is "dual carcinogenesis" in the pancreas with IPMN [5]. First, IPMN itself can progress from benign hyperplasia to low-grade dysplasia, then to high-grade dysplasia and finally to invasive carcinoma. Second, conventional pancreatic cancer may occur at a higher-than-normal rate anywhere in the pancreas other than IPMN [6,7]. Although many retrospective statistical studies have been reported on this dual carcinogenesis [8,9], the actual incidence of cancer remains to be clarified.

**Keywords:** intraductal papillary mucinous neoplasm, pancreatic cancer, prospective surveillance

## DESCRIPTION

A group of clinical researchers from the Japan Pancreas Society reported the results of a nationwide five-year prospective surveillance study of Branch Duct IPMN (BD-IPMN), which was initially harmless and asymptomatic [10]. Although many previous studies have addressed their results of retrospective analyses of data collected in one or multiple institutions, this study is unique as it is the first long-term prospective surveillance study conducted under strict central control of the surveillance protocol.

A total of 2,185 patients with BD-IPMN were registered from 74 institutions and followed up on 6-month basis by CT or MRI+MRCP/EUS alternately for a median of 5.17 years. Final cohort of 2,104 patients (female 52.8%) with the median age of 69 years were analyzed, excluding those with malignant diseases and lacking image data. The 5-year overall survival rate was 96.7%. The median value of serum carcinoembryonic antigen was 2.3 ng/ml, carbohydrate antigen 19-9 9.8 U/ml and amylase 79.0 IU/L. A total of 60 patients (2.9%) died during the study period with disease-specific death in 14 patients (0.7%).

The incidence of the most interesting "dual carcinogenesis" of the IPMN patients was analyzed. Progression of BD-IPMN to High-Grade Dysplasia (HD) or Invasive Carcinoma (IC) was noticed in 35 patients. Concomitant Pancreatic Ductal Adenocarcinoma (cPDAC) occurred in 38 patients including two with both HD/IC IPMN and cPDAC. Overall, 71 patients thus developed HD/IC of index BD-IPMN or/and cPDAC independent of index BD-IPMN. Thus, the cumulative 5-year incidence of HGD/IC and/or cPDAC was 3.37%. cPDAC stage was 0 in 2 patients, IA in 5, IB in 2, IIA in 3, IIB in 8, III in 8 and IV in 10. Unfortunately, despite this meticulous follow-up, only 25 patients of them (63.8%) underwent resection.

A few significant factors were identified as predictors of progression of BD-IPMN and the development of cPDAC. Larger IPMN cyst size (per 10-mm increase) (SHR=1.49) and increasing pancreatic duct diameter were the predictors of progression of BD-IPMN. Male gender (SHR=2.07) and age (per decade increase, SHR=1.57) were associated with the development of cPDAC.

## CONCLUSION

The risk of "dual carcinogenesis" during BD-IPMN surveillance was confirmed by the present prospective large-scale surveillance study. In particular, the importance of early detection of cPDAC cannot be overemphasized. The progression of IPMN is relatively easy to recognize by combining many predictive factors proposed as high-risk

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**Correspondence** Masao Tanaka

Shimonoseki City Hospital, Koyo-cho 1-13-1, Shimonoseki, Yamaguchi 750-8520, Department of Surgery and Oncology, Graduate School of Medical Sciences, Kyushu University, Fukuoka 812-8582, Japan

**E-mail** masaotan0601@gmail.com

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stigmata and worrisome features, and timing is rarely lost; however, early detection of cPDAC, which cannot be predicted in which part of the pancreas it will appear, remains a major challenge. In fact, a little more than one third of the 38 patients with cPDAC could not undergo resection mainly due to their advanced stages in the present study. A detailed analysis of the reasons for the delayed detection of cPDAC is currently underway. Future challenges include improving our surveillance protocols and establishing predictive markers, particularly focusing on cPDAC.

## CONFLICT OF INTEREST

The author declares no conflicts of interest.

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