Opinion

Happy experience of a medical doctor curing from pancreatic cancer
—A 60-day diary—

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(Communicated by Takashi SUGIMURA, M.I.A.)

Abstract: Pancreatic cancer was found by an abdominal CT scan in a medical doctor, the author of this article, before the appearance of any symptoms. After considering all the imaging findings including the CT, MRI, and PET, a diagnosis was made. He was admitted in the University of Tokyo Hospital on the 14th day after the CT finding. On the 18th day, the operation was successfully performed, and no tumor invading to adjacent tissue was seen. On the 29th day, 11th day after the operation, he left the hospital with a drain still in place to excrete abdominal exudation. The remaining drain was finally removed on the 60th day, and the treatment by the surgeon was completed. The chronological events that occurred during these 60 days are described in diary form. There is nothing superior to early detection and early treatment in the fight against cancer. He recommends everybody to receive periodical medical examinations before praying for good luck.

Keywords: pancreatic cancer, abdominal CT scan, MRI, FDG-PET, chemotherapy, clinical survey

Prologue

When I underwent a clinical examination at Toranomon Hospital on July 6, 2007, Dr. Shiun Dong Hsieh told me that it had been 15 years since my last check-up. The examination results showed a few trifling problems, but I was only worried about one of his comments: “...since a positive occult bleeding reaction was obtained and your blood CEA (carcino-embryonic antigen) level is somewhat elevated, you should probably undergo a lower gastrointestinal tract inspection”.

I immediately visited Dr. Mitsuhiro Fujishiro at the University of Tokyo Hospital. After undergoing a large intestine endoscopy, nine polyps were found, and one of them was a sigmoid colon cancer, with a diameter of 1 cm. By watching the monitor screen, he removed these polyps endoscopically, and the treatment was completed without any trouble arising from permeation.

I received a large intestine and stomach endoscopy together with an abdominal CT (computed tomography) scan every year thereafter to monitor for signs of the recurrence of this cancer. During the second year, a pancreatic cancer was found. As there was no sign of cancer during the first-year examination, this pancreatic cancer must have newly appeared and progressed within a one-year period. I was quite lucky that the cancer was discovered before the appearance of any symptoms.

I graduated from the medical school of the University of Tokyo 47 years ago and became a medical doctor. I have studied biochemistry and nutritional science since then. This time, I was fortunate to have a good experience as a patient undergoing cancer treatment. I received a deep impression from medical advances, and I am thankful for the advanced techniques in the diagnosis and treatment of cancer that are now available.

First day: Pancreatic cancer was found during an abdominal CT scan

After undergoing a stomach and large intestine endoscopy examination performed by Dr. Fujishiro as part of a periodical medical examination at the University of Tokyo Hospital on the morning of Friday, November 27, 2009, I underwent a CT scan in the afternoon. As no disorder was found by during
endoscopies, Dr. Fujishiro told me that my next medical examination would be performed in three years. I felt relieved and left for my office at the National Institution for Academic Degree and University Evaluation at Kodaira in the western part of Tokyo.

However, I received a telephone call that evening, as I was returning home by car. The phone told me that I should be hospitalized as soon as possible, even as early as tomorrow, because a pancreatic cancer had been found during my abdominal CT examination. The man who had phoned me was Yasuji Seyama, my eldest son. At that time, he was a doctor in the Hepatobiliary and Pancreatic Surgery Department of the University of Tokyo Hospital, and he is now the medical director of the Hepato-Biliary-Pancreatic Surgery Division, Department of Surgery, of the Tokyo Metropolitan Bokutoh Hospital. He is a known expert in the field of pancreatic cancer treatment.

According to the contrast CT, a hypovascular mass, measuring 27 mm in diameter, was found in the tail of the pancreas, and the caudal pancreatic duct was dilated with atrophied parenchyma (Fig. 1A). This space-occupying lesion was strongly suspected to be an invasive ductal carcinoma of the pancreas. There were no signs of lymph node metastases or tumor invasion to the major blood vessels.

This news hit me like a thunderbolt in fine weather. I was not in a situation where I could be hospitalized immediately, given my lecture schedule and my role as instructor of student experiments at the Sugiyama Jogakuen University in Nagoya, where I work.

I said to him that it was impossible for me because of my duties, and my wife requested that the operation be postponed until after the planned wedding ceremony of my daughter, Mariko, at the end of next January. But as the resection rate for pancreatic cancer is very low, my son strongly insisted that the tumor in the pancreatic tail be removed as soon as possible. I decided to follow his suggestion. Actually, according to the nationwide pancreatic cancer registry in Japan, the overall resection rate is as low as 37%.1)

Therefore, I decided to prepare for my university duties for the next two weeks. I was supported by a lecturer in my department, Kengo Ishihara, on the four days from Monday to Thursday of the next week, and I intensively finished my work at the university and gave a lecture at the Sugiyama kindergarten on Thursday, December 3. I got on the Shinkansen in the evening, and I came straight home.

**Eighth day: MRI and PET examinations**

After undergoing an MRI (magnetic resonance imaging) examination in the late morning of Friday, December 4, I underwent a PET (positron emission tomography) examination in the afternoon. The MRI examination revealed a mucinous component inside
the cancer in the pancreatic tail (Fig. 1B), and the tumor was positive for $^{18}$F-fluorodeoxyglucose (FDG) uptake during an FDG-PET scan (Fig. 1C). After considering all the imaging findings including the CT, MRI, and PET results, a diagnosis of T3, N0, M0, Stage II pancreatic cancer was made, meaning locally advanced pancreatic carcinoma but no lymph nodes and distant metastases.

Eleventh day: Treadmill test

On Monday, December 7, a treadmill test and an echocardiography examination were performed to check the cardiac risk for undergoing general anesthesia and the operation. Because the cancer had been detected at an early stage before the appearance of subjective symptoms, the results of both examinations were found to be normal.

I travelled to Nagoya early morning on Tuesday, December 8. Uneasiness that this might be my last visit to Nagoya flashed through my head, and I looked hard through the train car’s window to fix the familiar view that I had observed for one and a half years deeply in my mind. I was not able to take a nap, as I usually did.

I rearranged my desk after completing my instructions for the last student experiment on Wednesday, December 9, and I returned home.

Fourteenth day: Hospitalization

On the morning of Thursday, December 10, I was admitted to Room 944 of the University of Tokyo Hospital and was prepared for my operation. Various clinical inspections and breath training were performed, and an unexpectedly busy schedule

| Variables (Abbreviation)       | Data | Range   | Unit   |
|-------------------------------|------|---------|--------|
| White blood cell (WBC)        | 4.6  | 3.5–9.2 | $10^3$/µl |
| Hemoglobin (Hb)               | 16   | 13.8–16.6 | g/dl   |
| Hematocrit (Hct)              | 44.6 | 40.2–49.4 | %      |
| Platelet (PLT)                | 16.5 | 15.5–36.5 | $10^3$/µl |
| Total protein (T-prot)        | 7.5  | 7.5     | g/dl   |
| Albumin (Alb)                 | 4.7  | 3.9–4.9 | g/dl   |
| Total bilirubin (T-bil)       | 1.8  | 0.3–1.3 | mg/dl  |
| Aspartate Amino Transferase (AST) | 42   | 9.0–38.0 | U/l    |
| Alanine Amino Transferase (ALT) | 62   | 4.0–36.0 | U/l    |
| $\gamma$-glutamyltransferase ($\gamma$-GTP) | 68   | 4.0–68.0 | IU/l   |
| Alkaline phosphatase (ALP)    | 321  | 115–359.0 | IU/l   |
| Lactic acid dehydrogenase (LDH) | 244  | 125.0–237.0 | IU/l   |
| Urea nitrogen (BUN)           | 11.9 | 9.0–21.0 | mg/dl  |
| Creatinine (Cre)              | 0.8  | 9.0–21.0 | mg/dl  |
| Amylase (Amy)                 | 87   | 37.0–125.0 | IU/l   |
| Prothrombin time (PT)         | 99   | 70–120  | %      |
| Activated partial thromboplastin time (APTT) | 30.4 | 24–39   | seconds |
| Glucose (Glu)                 | 144  | 75.0–105.0 | mg/dl |
| Hemoglobin A1c (HbA1c)        | 6.9  | 4.3–5.8 | %      |
| Tumor markers                 |      |         |        |
| Carcino-embryonic antigen (CEA) | 1.4  | <5.0    | ng/ml  |
| Carbohydrate antigen 19-9 (CA19-9) | 10.1 | <37     | U/ml   |
| Elastase (ET)                 | 130  | 72–432  | ng/dl  |
| Pancreatic cancer-associated antigen (DUPAN-2) | 25   | <150    | U/ml   |
| S-pancreas-antigen 1 (Span-1) | 20.1 | <30     | U/ml   |

Table 1. Laboratory data of blood on December 4, 2009
awaited me. There were no serious concerns other than a slight liver function disorder and the presence of diabetes when the laboratory findings obtained at admission were reviewed, and all the tumor marker levels were normal (Table 1).

I signed the written consent form on Saturday, December 12, which explained the method that would be used to surgically remove the body and tail of the pancreas and the spleen and an explanation of the risks. Finally, the preparations for the operation were completed.

**Eighteenth day: Pancreatic excision operation**

On the morning of Monday, December 14, I was seen off by my wife, Fumiyo, and left my hospital ward to go to the operating room, although my memory of this time is vague thanks to the premedication for the general anesthesia. As the anesthesiologist was able to achieve an appropriate anesthesia induction and because of the general anesthesia, my consciousness returned the next morning and I did not feel any aches.

I graduated from medical school 47 years ago and received training in the Anesthesia Department of the University of Tokyo Hospital as an intern for one month, but I can remember this experience as if it was yesterday. This time, I experienced the anesthesia as a patient. Thanks to the sustained administration of the epidural anesthetic, I did not feel any pain once I had recovered from the general anesthesia.

The operation was performed by Prof. Norihiro Kokudo together with a team of Dr. Yasuji Seyama, who is my eldest son. The operation took 5 hours and 24 minutes.

The tumor was identified on the serosa side of the anterior surface of the pancreas. No tumor invading to adjacent tissue was seen, and the tumor was resected (Fig. 2). The resected specimen was a yellow-whitish hard tumor 2.5 × 2.3 × 1.8 cm in size with recognizable cystic components that were up to 8 mm in size (Fig. 3A, B). The pathological diagnosis was an intraductal papillary-mucinous carcinoma with mucin-hypersecretion without serosal invasion or retro-pancreatic tumor spreading (Fig. 4). A splenic artery around 2 mm in diameter ran along the border of the tumor on the left side, but fortunately, no invasion was seen. Lymph node metastases or perineural invasion were not observed. The final clinicopathological diagnosis was pT3, pN0, M0, Stage IIA, which was the same as the preoperative staging.

![Fig. 2. Photograph obtained during the operation. The tumor was identified on the serosal side of the pancreas. The tumor extended partly downward but was resectable.](image)

**Fig. 2.** Photograph obtained during the operation. The tumor was identified on the serosal side of the pancreas. The tumor extended partly downward but was resectable.

![Fig. 3. Excision specimen (gross image). The tumor was located in the body of the pancreas tail (A, arrow). On the sectioned surface, a white enhancement-related tumor that was 2.5 × 2.3 × 1.8 cm in size was seen, with recognizable cysts of up to 8 mm in size visible inside (B).](image)

**Fig. 3.** Excision specimen (gross image). The tumor was located in the body of the pancreas tail (A, arrow). On the sectioned surface, a white enhancement-related tumor that was 2.5 × 2.3 × 1.8 cm in size was seen, with recognizable cysts of up to 8 mm in size visible inside (B).
Nineteenth day (First day after operation):

Early movements in the intensive care unit

I recovered from the anesthesia and my consciousness returned clearly on the next morning; I was told that I had talked with my wife, Fumiyo, when I returned to the ICU after the operation on the previous day, but I did not remember doing so. I started to drink water and also to walk, but I was barely able to make the 10-meter round trip to the corridor because of the loss of my physical strength.

Twentieth day (Second day after operation):

Return to the general ward

I returned to my original ward room two days after the operation and had my first meal for lunch: jelly rice gruel. For lunch on the third day, I ate rice porridge, and I was able to eat normal food for breakfast of the fourth day. Although the tail portion of my pancreas and my spleen had been removed surgically, I was able to resume meals normally because the gastrointestinal tract itself had not been manipulated during the operation.

Incidentally, I was in charge of a basic nutrition class as part of a course to train administrative dietitians at Ochanomizu University and Sugiyama Jogakuen University. Thanks to this hospitalization, I was able to obtain the valuable experience of eating meals as a patient and to consider the problems of hospital lunches. I recorded the dietary contents and dishes included in each meal that I received during the pre- and post-operative periods using a cell-phone camera, and I think that these photos will be useful teaching materials for the classroom (Fig. 5).

As for the hospital diet, while the physician gives instructions depending on the condition of each patient and an administrative dietitian thinks about the menu and cooks the food, it is the nurses who ask the impressions of the patients directly. Communication among physicians, nurses, and administrative dietitians with regard to patient’s meals is important to provide an appropriate supply of food. The physician himself should consider what the patient will feel about the meal.

Twenty-seventh day (Ninth day after operation):

I left the hospital to attend a dinner party

Because Wednesday, December 23 (the ninth day after my operation), was a national holiday, I received permission and was able to leave the ward at night. I attended a dinner party with my whole family to celebrate the birthday of Fumiyo and my
early recovery at an Italian restaurant nearby. We had a fun time. I expressed my deep thanks to my wife who visited my ward each day and took care of the preparations for the wedding ceremony of our daughter, Mariiko, which was planned to be held on January 30, one month away.

I had roast chicken and Christmas jelly for supper on Thursday, December 24 (the tenth day after my operation) to celebrate Christmas. I was thankful for the success of the operation to remove the pancreatic cancer surgically, and my confidence that I would return to everyday life sprang forth.

Twenty-ninth day (Eleventh day after operation): I left the hospital

Eight tubes in just like a macaroni state were removed in sequence, and I was safely discharged on Friday, December 25, once I finally required only one drain. This was a miraculously early recovery, only eleven days after undergoing open surgery, but it was the start of my outpatient medical treatment because I was discharged with a drain still in place to excrete abdominal exudation.

Although I had only lain in bed for a short time, I had lost a lot of the muscular strength in my legs and just going up the stairs to my third-floor apartment while holding onto the handrail was difficult. After finishing lunch at my home after my long absence, I fell into a deep sleep twice that afternoon.

Thirty-second day (Fourteenth day after my operation): I started outpatient medical treatment

When I was healthy, I could reach the University of Tokyo Hospital from my house in 30 minutes; it took more than one hour on Monday, December 28, for me to walk the 2 km. My drain was cleaned in the surgery outpatient department, and I also received instruction on how to change the gauze by myself from then on.

I also received instructions regarding diabetes management from Dr. Naoya Yahagi in the Glucose Metabolism and Internal Medicine Department on Tuesday, December 29. My diabetes had been pointed out in the clinical survey that I had undergone in 2007, as I mentioned in the Prologue, but I had not received treatment. However, I now started to take a drug called Amaryl, which promotes insulin secretion, every morning, since the tail of my pancreas had been surgically removed during the operation.

Thirty-third day (Fifteenth day after the operation): I visited a house in Zushi

On the morning of Wednesday, December 30, I went to my second house in Zushi, south of Tokyo on seaside, to spend the year-end and New Year holidays. When the Yasuji family, the second son Hidenori family, the daughter Mariiko and her bridegroom gathered for a meal on New Year’s Day, I spoke words of thanks to all my family members including my wife, Fumiyo, who had supported me during my hospitalization. We made a visit to a grave at Jomyoji temple in Kamakura and to Morito Shrine in Hayama on New Year’s Day. During our stay of 6 days and 5 nights before coming back to Tokyo on Tuesday, January 4, I spent the days as I had in previous years.

Forty-fourth day (Twenty-sixth day after my operation): I made a duty trip to the university in Nagoya

January 9 was a Saturday, but the graduation meeting for presenting research papers was held at Sugiyama Jogakuen University. Because the presentations of study results by the fourth-year students and the second-year Master’s students whom I had instructed was being performed, I left for Nagoya on the Shinkansen after an interval of one month since December 9. Although I attended with a drain in my abdomen, nobody knew I had been sick. I had previously told only the dean, the chairman, and the staff of my laboratory that I was sick. After the presentation, I went to a restaurant with the students assigned to my laboratory to thank them for their achievements. I was able to return to Tokyo safely at night.

I began commuting to Nagoya for 3 days and 2 nights each week starting on Tuesday of the following week, and I taught and provided practical training to my class. I changed the gauze around the drain in the morning and in the evening while staying at the Hotel Rubura Ohzan, so I was able to work while saving postoperative treatment.

Sixtieth day (Forty-second day after operation): The remaining drain was removed

The remaining drain was finally removed on Monday, January 25, on the 60th day after the detection of my pancreatic cancer by the CT examination. The treatment by the surgeon was completed on the 42nd postoperative day, and I was relieved from the complexity of the gauze exchange.
The early detection and early treatment of pancreatic cancer is still difficult. In particular, careful attention for three years is needed after a rapid aggravation of glucose tolerance. My blood sugar control had worsened for about half a year before my pancreatic cancer was diagnosed, even though I ate moderately. Upon reflection, this might have been the first symptom of my pancreatic cancer. In the future, the frequency of heterochronous overlapping cancer is expected to increase with the aging society in Japan. Although heterochronous cancer is not recognized as a risk factor, it is important not to overlook the presence of pancreatic lesions during follow-up examinations for other cancers, such as the colon cancer in my case.

Epilogue

A diary that my eldest son, Yasuji, had written in third grade of the elementary school was found on December 14, 2011, two years after my operation. My wife had kept it on a bookshelf.

He had written about his dream on one of the pages. There was one sentence as follows: “I want to be a surgeon and to operate on patients with pancreatic or stomach cancer in future, and I have wanted to see an operation ever since I was a kid.”

He had also written, “Therefore, I always watch TV programs about doctors on Saturday, and I look forward to watching operations”. A drama entitled “Shiroi-Kyotou” by Toyoko Yamazaki had been televised in 1978. After 31 years, he finally became a surgeon specializing in liver, biliary tract, and pancreas surgery, and he participated in an operation to remove a pancreatic cancer from his father. I received a deep impression from this diary as a patient, and I am thankful for the materialization of his dream.

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References

1) Matsuno, S., Egawa, S., Fukuyama, S., Motoi, F., Sunamura, M., Isaji, S., Imaizumi, T., Okada, S., Kato, H., Suda, K., Nakao, A., Hiraoka, T., Hosotani, R. and Takeda, K. (2004) Pancreatic cancer registry in Japan: 20 years of experience. Pancreas 28, 219–230.

2) Sobin, L.H. and Wittekind, C. (eds.) (2002) International Union Against Cancer. TNM classification of malignant tumors. 6th ed., New York, Wiley-Liss.

3) Oettle, H., Post, S., Neuhaus, P., Gellert, K., Langrehr, J., Ridwelski, K., Schramm, H., Fahlke, J., Zuelke, C., Burkart, C., Guterlet, K., Kettner, E., Schmaleben, H., Weigang-Kochler, K., Bechstein, W.O., Niedergethmann, M., Schmidt-Wolf, I., Roll, L., Doerken, B. and Riess, H. (2007) Adjuvant chemotherapy with gemcitabine vs observation in patients undergoing curative-intent resection of pancreatic cancer: a randomized controlled trial. JAMA 297, 267–277.

4) Neoptolemos, J.P., Stocken, D.D., Friess, H., Bassi, C., Dunn, J.A., Hickey, H., Beger, H., Fernandez-Cruz, L., Dervenis, C., Lacaine, F., Falconi, M., Pederzoli, P., Pap, A., Spooner, D., Kerr, D.J. and Büchler, M.W. (2004) European study group for pancreatic cancer. A randomized trial of chemoradiotherapy and chemotherapy after resection of pancreatic cancer. N. Engl. J. Med. 350, 1200–1210.

5) Lin, Y., Kikuchi, S., Tamakoshi, A., Yagyu, K., Obata, Y., Inaba, Y., Kurosawa, M., Kawamura, T., Motohashi, Y. and Ishibashi, T. (JACC Study Group) (2007) Obesity, physical activity and the risk of pancreatic cancer in a large Japanese cohort. Int. J. Cancer 120, 2665–2671.

6) Inoue, M., Iwasaki, M., Otani, T., Sasazuki, S., Noda, M. and Tsugane, S. (2006) Diabetes mellitus and the risk of cancer: results from a large-scale population-based cohort study in Japan. Arch. Intern. Med. 166, 1871–1877.

7) DiMagno, E.P., Reber, H.A. and Tempero, M.A. (1999) AGA technical review on the epidemiology, diagnosis, and treatment of pancreatic ductal adenocarcinoma. American Gastroenterological Association. Gastroenterology 117, 1464–1484.

8) Tada, M., Kawabe, T., Arizumi, M., Togawa, O., Matsubara, S., Yamamoto, N., Nakai, Y., Sasahira, N., Hirano, K., Tsujino, T., Tateishi, K., Isayama, H., Toda, N., Yoshida, H. and Ono, M. (2006) Pancreatic cancer in patients with pancreatic cystic lesions: a prospective study in 197 patients. Clin. Gastroenterol. Hepatol. 4, 1265–1270.

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