National Cancer Center (NCC) Japan, NCC Seed Acceleration Program（NCC SAP）

Commercialization of Gel-Type Spacers Enabling High-Dose Radiation Therapy for Pancreatic Cancer

S2-226107

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Vision

- Pancreatic cancer is a particularly aggressive form of cancer with a poor prognosis; it is a difficult-to-treat tumor with an extremely low five-year survival rate of 8.5%. Currently, surgical resection is the only treatment for pancreatic cancer that offers a chance of a cure; however, inoperable cases and patients who choose not to undergo surgery account for more than 40% of cases. In recent years, high-dose radiation therapy has been reported to achieve survival rates comparable to those of surgery. However, because the pancreas is located in close proximity to normal organs such as the digestive tract, there is a high risk of complications associated with radiation exposure to normal tissues. Consequently, the number of patients eligible for high-dose radiation therapy for pancreatic cancer is very limited. The commercialization of gel-type spacers is expected to expand the application of minimally invasive and highly safe high-dose radiation therapy, leading to improved prognoses and a significant extension of survival for pancreatic cancer patients.

Marketability

- Pancreatic Cancer Patients and Market Size in 2031: Estimated at 63.1 billion yen across Japan, the U.S., and the EU, with a total of 190,000 new cases (2031)
- Among these patients, cases deemed “unsuitable for surgery without duodenal invasion” are expected to enable rapid market penetration (accounting for 28% of all pancreatic cancer cases).
- If evidence demonstrating the ability to replace surgical resection is established, the technology is expected to capture approximately 35–40% of the overall pancreatic cancer market.Following confirmation of efficacy in pancreatic cancer, expansion into other unresectable cancers is planned, including recurrent colorectal cancer and recurrent cervical cancer.

Innovation

- This is the world’s first spacer applicable to pancreatic head cancer, which accounts for more than 70% of all pancreatic cancer cases.
- For patients with pancreatic cancer who currently must rely on chemotherapy or palliative treatment aimed at life prolongation, symptom relief, or adjunctive support for surgery, this technology could provide a minimally invasive and potentially curative treatment option.

Partnering

【 Expected partners 】
Medical institute・Electronics/Digital Machinery/Device・CMO/CDMO/CRO/SMO・Medical/Diagnosis/Research Devices・Venture capitals

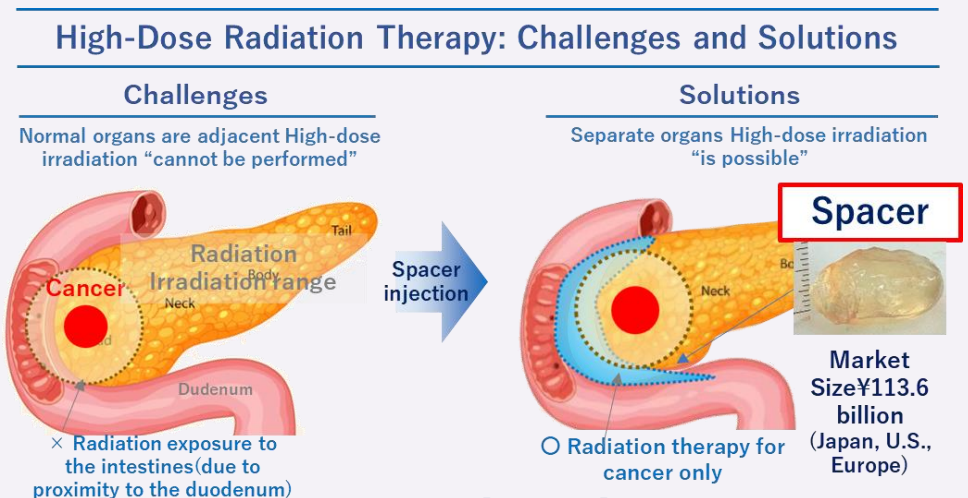
【 Expectation 】
Clinical trials, manufacturing partnerships, sales partnerships, startup support, and joint research and development

Research Outline

Key Words: #Medical Devices

The gel-type spacer for high-dose radiotherapy in pancreatic cancer enables:

- Minimally invasive treatment
- Improved local control rates of pancreatic cancer
- Prolonged survival outcomes



① Patients with Stage I, II, III inoperable pancreatic cancer ⇒ Less invasive treatment, improved
② survival Patients with Stage IV pancreatic cancer ⇒ (in combination with drugs) Improved local control rate of pancreatic cancer, prolonged survival