Background: The elderly population has been steadily increasing in many developed countries, raising new issues in the field of pancreatic surgery. Several recent studies have demonstrated feasibility of standard pancreatoduodenectomy (PD) in elderly patients; however, none have focused on PD with portal vein resection (PD-PVR) for locally advanced pancreatic cancer.

Methods: Two hundred seventy-two patients who underwent PD between January 2000 and December 2012 were enrolled in this study. Patients were categorized into four groups based on their age and the absence or presence of PVR: elderly (≥70 years of age) and younger (<70 years of age) PD-PVR groups, and elderly and younger PD groups. Preoperative patient background, intraoperative conditions, pathological findings, postoperative course, and overall survival were compared.

Results: In a comparison among patients who underwent PD-PVR, the elderly group had significantly higher performance status scores and prevalence of comorbidity compared with the younger group (P = 0.003 for both), whereas there were no differences in intraoperative and pathological characteristics. Postoperatively, morbidity, and length of hospital stay were similar between the elderly and younger groups. Despite the fact that the proportion of patients who underwent adjuvant chemotherapy was lower in the elderly group (P = 0.005), overall survival of the elderly group was comparable to that of the younger group who underwent PD-PVR, and both groups had a significantly more favorable prognosis than that of patients with unresected tumors (P = 0.006 and P < 0.001, respectively).

Conclusion: PD-PVR is safe and beneficial for elderly patients with pancreatic cancer.