Metastatic Pancreatic Adenocarcinoma Treatment Patterns, Health Care Resource Use, and Outcomes in France and the United Kingdom Between 2009 and 2012: A Retrospective Study

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ABSTRACT

Purpose: In Europe, pancreatic cancer (PC) accounts for approximately 2.6% of all new cancer cases and is the fourth leading cause of cancer-related death. Despite substantial morbidity and mortality, limited data are available describing real-world treatment patterns and health care resource use in any European country. We evaluated PC-related treatment patterns and associated health care resource use among patients with metastatic PC in the United Kingdom and France.

Methods: One hundred three oncology specialists (53 in France and 50 in the United Kingdom) abstracted data from medical records of 400 patients whom they treated for metastatic PC. Eligible patients had a diagnosis of metastatic PC at age 18 years or older between January 1, 2009, and December 31, 2012; had ≥3 months of follow-up time beginning at metastatic diagnosis; and received at least 1 cancer-directed therapy for metastatic disease. Information on patient demographics, Eastern Cooperative Oncology Group performance status, location of primary tumor, presence of comorbidities, adverse events, and complications were collected. Data on cancer-directed treatments and supportive care measures were evaluated. All analyses were descriptive.

Findings: Approximately two thirds of patients were men, and median age at metastatic disease diagnosis was 62.2 years. Nearly all patients (97.3%) received chemotherapy to treat metastatic disease, 9.3% received radiation therapy, and 7.8% received a targeted therapy. Overall, the most frequently administered first-line regimens for metastatic disease were gemcitabine alone (46.0%), a combination chemotherapy regimen consisting of oxaliplatin, irinotecan, fluorouracil, and leucovorin (FOLFIRINOX; 20.1%); gemcitabine/capecitabine (10.8%); and gemcitabine/oxaliplatin (9.5%). Approximately 40% of patients in France and 15% of patients in the United Kingdom received second-line systemic therapy, whereas 20% of patients in France and 3.4% of patients in the United Kingdom received third-line systemic therapy for metastatic disease. Overall, 52.5% of patients experienced at least one complication of PC. More than two thirds of patients had ≥1 office visit unrelated to chemotherapy administration, 54.0% had ≥1 inpatient hospitalization, 36.8% had ≥1 emergency department visit, and 25.3% had ≥1 pain management clinic visit. A total of 26.5% of patients in France and 42.5% in the United Kingdom entered hospice or long-term care.

Implications: This study provides new, detailed information for patients with metastatic PC in real-world settings in 2 European countries. A small proportion of patients received >1 line of systemic therapy for metastatic disease, which is likely due to

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the aggressiveness of this disease and the lack of effective therapeutic options. (*Clin Ther*. 2015;37:1301–1316) © 2015 The Authors. Published by Elsevier HS Journals, Inc.

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INTRODUCTION

Pancreatic cancer accounts for approximately 2.6% of all new cancer cases in both sexes in Europe.[1] In the United Kingdom, the total incidence of pancreatic cancer remained stable overall between 1975 and 1977 and 2008 and 2010, given a decrease in incidence in men and a similar increase in women during these periods.[2] In contrast, an increase in the incidence in both sexes was reported in Burgundy, France, between 1981 and 2005 for men (from 5.7 in 1981–1985 to 7.9 per 100,000 in 2001–2005) and women (from 2.6 in 1981–1985 to 4.6 per 100,000 in 2001–2005).[3] To our knowledge, the apparent disparity in changes in sex-specific incidence rates in the United Kingdom and France over time has not been documented in the literature. Although there is no guarantee that cancer incidence rates will change in parallel in all strata (eg, by age, sex, and region or country), underlying regional differences in risk factors demonstrated to affect incidence rates (eg, smoking and obesity) may play a part in these seemingly contradictory findings.[2]

In Europe, where pancreatic cancer is the fourth leading cause of cancer-related death and has an increasing mortality rate in both sexes, it is predicted that 82,300 deaths will occur in 2014 due to this disease.[4] Part of the reason for a high case-fatality rate in pancreatic cancer is that many patients do not experience symptoms until the disease is in an advanced stage, leading to delays in diagnosis and subsequent treatment initiation. In addition, despite substantial research efforts, until relatively recently, there has been little therapeutic advancement in the treatment of this disease in the adjuvant setting[5,6] or in advanced disease.[1,7,8]

Leucovorin, 5-fluorouracil (5-FU), irinotecan, and oxaliplatin (FOLFIRINOX) and the gemcitabine plus nab-paclitaxel combination represent the most recent advancements for the first-line treatment of metastatic disease. Conroy et al,[8] of the Groupe Tumeurs Digestives of Unicancer and the PRODIGE Intergroup, demonstrated that patients with an Eastern Cooperative Oncology Group (ECOG) performance status (PS) score of 0 or 1 receiving FOLFIRINOX achieved a median overall survival of 11.1 months compared with 6.8 months in patients who received gemcitabine (hazard ratio = 0.57; 95% CI, 0.45–0.73; $P < 0.001$). Patients who received FOLFIRINOX also experienced significantly increased toxicity relative to gemcitabine alone. Comparable results have been achieved in routine clinical practice in France, where the safety and efficacy of this regimen were evaluated.[9] In addition, real-world data from a large, integrated oncology network in the United States demonstrated an increase in the use of FOLFIRINOX[10] after the availability of data from the randomized study described by Conroy et al.[8] The overall survival data from a real-world setting presented by Cartwright et al[10] were significantly better for FOLFIRINOX than for gemcitabine alone ($P < 0.001$), although the magnitude of effect was not as large as that reported in the results of the clinical trial described by Conroy et al.[8] To achieve a more favorable benefit–risk profile for patients, efforts are ongoing to evaluate the safety and efficacy of modified FOLFIRINOX regimens. Nab-paclitaxel, in combination with gemcitabine, has been approved by the US Food and Drug Administration[11] and the European Medicines Agency (EMA)[12] for patients with a Karnofsky PS of 70 or higher based on results reported by Von Hoff et al.[7] Clinical trial results found that the median overall survival for the nab-paclitaxel combination was significantly better than for gemcitabine alone (median = 8.5 months [vs] 6.7 months; hazard ratio = 0.72; 95% CI, 0.62–0.83; $P < 0.001$), and toxicity was greater among patients treated with the combination.[7]

Although pancreatic cancer is a major cause of morbidity and mortality in economically developed nations, only limited data have been published describing real-world treatment patterns and health care resource use associated with the treatment of pancreatic cancer in any European country. As part of our objectives, we set out to characterize whether FOLFIRINOX use is increasing in select countries in Europe. Furthermore, to our knowledge, there are limited data on the frequency of complications in this population and the extent to which these aspects of the disease are associated with health care resource use. Therefore, we undertook a study to evaluate