

## Research Article

# Pancreatic Cancer and Racial Differences in the Choice for Hospice Care Versus Aggressive Medical Treatment

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## Abstract

**Introduction:** Although pancreatic cancer is the tenth most common malignancy; it is the fourth leading cause of cancer related deaths in the United States. Despite several recent advances, the overall five year survival rate remains at less than 5% for all stages. Approximately 80% of all the newly diagnosed pancreatic cancers are metastatic; hence palliative care therapy and hospice care are important aspects of their medical management. Although several authors have looked into the utilization of hospice in terminal cancer patients in general, to our knowledge very limited data exists specifically looking at utilization hospice care in advanced stage pancreatic cancer patients. The present study looks into the ethnic differences in insurance status of pancreatic cancer patients and their choice for hospice service versus aggressive therapies.

**Materials and Methods:** We retrospectively reviewed the charts of all pancreatic cancer patients in Tumor Registry at University of Florida Health, Jacksonville from January 1st, 2000 to December 30, 2005. Each patient's record was reviewed for stage at presentation, demographics, presence of risk factors, co-morbidities, treatments options accepted by the patients. The treatment options were divided into two subgroups: Aggressive medical treatment and hospice care. Charts were reviewed for insurance status and people with no insurance were classified into low socioeconomic status group. Patient were selected based on their comparable low Eastern Cooperative Oncology Group (ECOG) system. A univariate statistical analysis was used to analyze the data.

**Results:** 82 patients were identified with a mean age at diagnosis of 66.4 years. Male to female distribution was 1.1:1.0. This total included 53 African-Americans (65%) and 29 (35%) white patients. 41% patients were smokers. 14 (17%) patients had diabetes at the time of diagnosis. Most common presentation was obstructive jaundice (43%). 59 (60%) patients were in Stage 4, 14 (17%) Stage 3, 13 (16%) stage 2 and 6 (7%) were in Stage 1. 53 (65%) had unresectable disease at the time of diagnosis. About 69 (84%) patients had ECOG score of less than 1 and 13(16%) ECOG greater than 1. 43 (52%) patients elected for hospice care, which included 37 (60%) African American patients and only 7 (24%) Caucasian patients who chose hospice. Out of the total patient population, 33 (40.2%) patients had no medical insurance, which included 24 (72.2%) blacks and 9(27.27%) white males.

Using univariate statistical analysis, African Americans patients ( $p < 0.008$ , OR- 5.6, 95% CI- 1.9-16.1), increasing age ( $p < 0.02$ , OR-1.011, 95% CI – 1.11- 1.135), higher Stage at presentation ( $p < 0.001$ , OR-63, 95% CI- 9.2-400) and lower socioeconomic status (without insurance) ( $p < 0.002$ , OR- 9.3, 95% CI- 2.2- 39) were statistically associated with choice of hospice care over aggressive therapy.

**Conclusion:** African Americans are more likely to present with no medical insurance, at a higher stage and elect for hospice care over more aggressive therapy compared to white patients.

**Keywords:** Pancreatic Cancer; Hospice Care

## Introduction

Pancreatic cancer is one of the most lethal malignancies and is ranked at fourth place in terms of the cancer related deaths in the United States [1]. On Average, twenty two percent of the total deaths from gastrointestinal cancers in the United States are attributed to Pancreatic Cancer [2]. In the year 2008 alone, 37,680 new cases of

pancreatic cancer were diagnosed in the United States and a total of 34,290 patients died from this lethal malignancy [3]. Globally it is estimated to cause over 250,000 deaths each year [4]. About 80% of patients present with advanced stage pancreatic cancer which is not amenable to surgery, whereas the remaining 20% are likely to develop metastatic disease within the following year [5,6]. Sadly, all-stage five year survivals from the time of diagnosis in patients with pancreatic

cancer is less than 5% [7].

In the background of these dismal statistics, for most patients with newly diagnosed pancreatic cancer the most important decision pertains to hospice care versus the more aggressive form of palliative treatment involving surgery and chemoradiation. To our knowledge though there are studies which have looked into the utilization of hospice in terminal cancer patients in general, very limited data exists specifically looking at hospice utilization in advanced stage pancreatic cancer patients. The present study looks into the ethnic differences in stage and insurance status of pancreatic cancer patients and their choice for hospice service versus aggressive therapies.

## Materials and Methods

We retrospectively reviewed the charts of all pancreatic cancer patients in Tumor Registry at University of Florida Health, Jacksonville from January 1<sup>st</sup> 2000 to December 30<sup>th</sup>, 2005. Each patient's medical record was reviewed for stage at presentation, demographics, presence of risk factors, co-morbidities and treatments options accepted by the patients. The treatment options were divided into two subgroups: Aggressive medical treatment and hospice care. Charts were reviewed for insurance status and people with no insurance were classified into low socioeconomic status subgroup. Patient's functional status was screened using the Eastern Cooperative Oncology Group (ECOG) scoring system. A univariate statistical analysis was used to analyze the data.

## Results

82 patients were identified. Mean age at diagnosis was 66.4 years. This total included 53 African-Americans (65%) and 29 (35%) white patients. 41% patients were smokers. 14 (17%) patients had diabetes at the time of diagnosis. Most common presentation was obstructive jaundice (43%). 59 (60%) patients were in Stage 4, 14 (17%) Stage 3, 13 (16%) stage 2 and 6 (7%) were in Stage 1. 53 (65%) had unresectable disease at the time of diagnosis. About 69 (84%) patients had ECOG score of less than 1 and 13(16%) ECOG greater than 1, 43 (52%) patients elected for hospice care, which included 37 (60%) African American patients and only 7 (24%) Caucasian patients who chose hospice. Out of the total patient population, 33 (40.2%) patients had no medical insurance, which included 24 (72.2%) blacks and 9(27.27%) white males.

Using univariate statistical analysis African Americans patients ( $p < 0.008$ , OR- 5.6, 95% CI- 1.9-16.1), increasing age ( $p < 0.02$ , OR- 1.011, 95% CI - 1.11-1.135), higher Stage at presentation ( $p < 0.001$ , OR-63, 95% CI- 9.2-400) and lower socioeconomic status (without insurance) ( $p < 0.002$ , OR- 9.3, 95% CI- 2.2-39) were statistically associated with choice of hospice care over aggressive therapy.

## Discussion

The mortality rates among black men and women with pancreatic cancers are much higher compared to their white counterparts and this difference cannot be explained by known risk factors such as smoking alone [8]. Low socioeconomic status is an independent risk factor for mortality in pancreatic cancer patients [9,10] and may culminate in several disadvantages often stemming from lack of medical insurance and a very limited access to screening and preventative measures offered by primary care physicians. These may

lead to treatment disparities which may explain the racial difference in mortality seen between black and white patient populations. In patients with non-metastatic pancreatic cancers the adjuvant use of chemoradiation is associated with improved survival; however, patients without proper access to healthcare may only be found when the pancreatic cancer has evolved to a higher stage when the benefits of medical management are minimal at best [11].

Once patients are diagnosed with advanced stage pancreatic cancer they are faced with the daunting task of choosing between aggressive palliative treatment and hospice care. These decisions are exceptionally complex both for the patients and their family members. Hospice model of care revolves around comfort care and includes the symptomatic management of pain with opioid analgesics. It is especially beneficial in that it supports patient autonomy in making end of life decisions and thus improves their quality of life. These people are also more likely to die in the comfort of their home among the company of loved ones. All these reasons might explain why hospice patients are more likely to be satisfied with the end of life care they receive [12-25]. Compared to the more aggressive treatment modalities including surgery and chemoradiation in advanced stage pancreatic cancer, the care provided under hospice also has the added benefit of lower cost [26].

In our patient population the statistically significant factors influencing the choice of hospice versus aggressive medical therapy included advanced age, African American race, a lower ECOG functional status score and a lower socioeconomic status as evident by lack of medical insurance. The financial cost associated with the aggressive medical treatment played an important role in the choices made by our patient population.

Forty percent of our patient population did not have medical insurance. This pool comprised of a significantly higher proportion of African American (72%) patients compared with their white counterparts at 27.27 %. In our sample population, all the presenting signs and symptoms can be divided into three major groups included obstructive jaundice, pain and new onset diabetes. In our patient population, the uninsured patients did not have any significant primary care physicians and their lack of awareness lead them to generally ignore their initial signs and symptoms until a much advanced stage. This observation might explain why in our study eighty five percent of the African American patients presented at an advanced stage (stage 3 or 4) at the time of diagnosis compared to fifty six percent of their white counterparts.

While our current study only involves eighty two patients from a single over university program over five years, it significantly contributes to the global discussion about the role of modifiable variables stemming from racial disparities in the choice of hospice care. Our findings further emphasize the need for conductive large, multicenter studies involving the regional oncology centers. Findings from these larger studies can then be used to guide future screening and preventative care public awareness policies.

## Conclusion

Pancreatic cancer is a very aggressive malignancy with high mortality rates. Blacks are more likely to have no medical insurance and present at an advanced stage pancreatic cancer than white

patients. Lower socioeconomic status might explain why African American patients were more likely to elect for hospice care over aggressive therapy. In general we also found that a higher Stage at presentation and lower socioeconomic status were associated with choice of hospice care over aggressive therapy in our patient population.

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