



Implementation of an Interventional Radiology Patient Tracking Registry Post

Chemoembolization and Radioembolization

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Introduction

Problem Description

- ❖ In 2017, the National Cancer Institute (NCI) reported 40,710 new cases of primary and secondary hepatic carcinomas with Hepatocellular Carcinoma (HCC) ranking 3rd among all primary hepatic cancers. (Spreafico, Cascella, and Facciorusso, 2015)
- ❖ Loco-regional therapies as Transarterial Chemoembolization (TACE) and Transarterial Radioembolization (TARE) play a critical role in the management of the vast majority of patients, as primary palliative treatment (Nam, Jang, and Song, 2016)
- ❖ Despite procedural success post procedural complications are not uncommon after TACE and TARE (Riaz, Awais and Salem, 2016)
- ❖ The available literature supports a reduction in post-procedure complications and hospital readmissions through implementation of a patient tracking registry for TACE and TARE patients. An extensive literature search revealed a void in telephone follow-up (TFU) status post TACE and TARE

Background

- ❖ Chemoembolization and Radioembolization are minimally invasive Food and Drug Administration (FDA) approved innovative, current standards of care for the treatment of HCC
- ❖ Chemoembolization involves transarterial introduction of embolic, chemotherapy drug eluting beads into the tumor bed (Nam, Jang and Song, 2016)
- ❖ Radioembolization is a form of brachytherapy involving transarterial radioactive microspheres into HCC and other hepatic tumors (Sacco et al, 2015)
- ❖ Side effects of TACE and TARE range from mild to severe up to 30 days post procedure

Radioembolization Microspheres



<https://www.google.com/imgres?imgurl>

- ❖ Complications and increased hospital readmission rates can occur if patients are not properly tracked.

Specific Aim

PICOT Question: In adults over the age of 18 years of age diagnosed with HCC and metastatic hepatic carcinoma who are treated with TACE or TARE, does the utilization of an Interventional Radiology Patient Tracking Registry, including ECOG Performance Status Scoring and TFU at 2 and 4 weeks lead to expedition of treatment for post procedural complications up to 120 days, when compared to current practice without a registry?

Available Knowledge

- ❖ Electronic Database review between 2012-2017, including MEDLINE, CINAHL, COCHRANE DATABASE, and PUBMED.
- ❖ Keywords included: Chemoembolization, Radioembolization, ECOG, procedural complications, patient registries, telephone follow-up.
- ❖ 110 articles reviewed.
- ❖ Chemoembolization offers minimal toxicity, increased treatment response, and increased median survival (Moreno-Luna et al., 2013), Tsoulfas, 2015), (Leconi, Petruzzi, & Crocetti, 2013).

Available Knowledge, cont.

- ❖ Radioembolization provides consistent results in tumor necrosis, tumor regression, increased response rates and time to tumor progression (Edeline, Gilbert, Garin, Boucher & Raoul, 2014), (Mahnken, 2016), (Sangro, Inarrairaegui & Bilbao, 2012)
- ❖ Properly designed and executed patient registries provide a real-world view of clinical practice, patient outcomes, safety, and comparative effectiveness (Fgliklich, Dreyer, & Leavy, 2014)
- ❖ The ECOG Performance Status Scale describes a patient's level of functioning in terms of their ability to care for themselves, daily activity, and physical ability in a consistent manner (American College of Radiology Imaging Network in Cancer Imaging, 2017)
- ❖ An exhaustive literature review revealed minimal clinical research on procedural TFU

Methods

- ❖ Expedited Human Subjects Review Committee (HSRC) from Wilmington University and Institutional Review Board (IRB) at Christiana Care Health System
- ❖ IRB Consent form signed by participants on the day of procedure
- ❖ ECOG scoring applied utilizing a scale from 0-5 at initial meeting and at 2 and 4 weeks
- ❖ TFU at 2 and 4 weeks utilizing a TFU Script.
- ❖ Registry development in a secure password protected, institutional computer in a locked room

Results

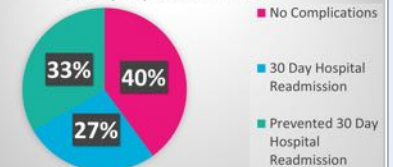
TARE & TACE, 10 Males, 5 Females from September 19, 2017 through January 19, 2018 who received TFU & ECOG scoring compared to 21 patients from January 2, 2017 through April 28, 2017, without intervention

Results

Study Results

- ❖ 33% (n=5) of patients received intervention decreasing 30-day readmission rates
- ❖ Participant sample had four 30-day hospital readmissions while the control group had six 30-day hospital readmissions (p=1.0)
- ❖ TFU intervention allowed for careful observation of study participants
- ❖ ECOG scoring provided a standardized tool to measure activity level & functionality

Study Population Results



Discussion

- ❖ No randomized trials, meta-analyses, or higher level research regarding TFU OR ECOG scoring post TACE or TARE
- ❖ Results of EBQI project added to the body of knowledge regarding importance of patient registries
- ❖ TFU & ECOG scoring can provide a means of standardized care for this population

Limitations

- Nurse Practitioner staffing limited 2 patients from the study.
- ❖ New antiviral drugs are decreasing HCC.

Conclusions

TFU & ECOG scoring identified 5 of 15 patients at risk for post procedural complications & decreased 30-day hospital readmissions