AAOM 2017 - Lester Burket Memorial Award
Thursday, 04/06/2017, 11:00-11:45am

To conserve space, we list only the institution and the country submitted as 1st organization.

11:00am

OUTCOMES AFTER PHYSICAL THERAPY FOR THE TREATMENT OF TEMPOROMANDIBULAR DISORDERS

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Objectives: Physical therapy (PT) is among the widely used treatment modalities to address temporomandibular disorders (TMD). PT is a conservative, cheaper alternative to other treatments and presents lower risk because it is non-invasive unlike high risk invasive and irreversible procedures such as surgery, dental rehabilitation and orthodontic therapy. However, there is very limited data looking at outcomes in this patient cohort. The aim of this study is to evaluate the outcomes after PT is prescribed for patients with TMD.

Methods: This was a single center, retrospective, observational study. We screened patient records of those who presented to our outpatient oral medicine practice between March 2010 to March 2015 with symptoms of TMD. Eligible patients were: those who were diagnosed with a TMD (e.g.: synovitis/capsulitis/arthralgia of TMJ, articular disc disorder (reducing or non-reducing), myofascial pain); were prescribed to have PT as part of their treatment plan; had follow up visits within 3 months of the initial visit; were greater than 12 years old; had no autoimmune polyarthritides; no history of trauma within 1 month of presentation and; no prior experience with PT for this condition. Comparisons were made between two groups: 1) involving patients who were prescribed PT and attended PT by the first follow up (1st FU) visit (PT group) and; 2) patients who were prescribed PT but did not attend PT by the 1st FU (non-PT group). Information gathered included demographics, medical history, social history, and baseline and follow up information from history and clinical examination. Primary outcome variables included patient reported pain severity scores on a 0-10 scale (to include "current," "average," and "worst" levels of pain,) and other clinical findings upon examination to include maximum interincisal mouth opening with and without pain (in millimeters [mm]).

Results: Within that 5-year span, there were 1331 patients seen for TMD symptoms. After screening of records, 298 patients met inclusion criteria and were divided into the two groups in the following manner: 1) PT group (n=228) and; 2) non-PT group (n=70).

There was no difference in mean age ± SD between the two groups: PT 44.4 yrs± 16.98 vs. non-PT 46.3 yrs ± 16.2 (p=0.32). A significant difference was found in the proportion of men vs. women who went to PT. Out of the 50 men included in the study, 76% went to PT and 24% did not; this is compared to 56% of women who went for PT vs. 44% who did not (p=0.0085).

There was a statistically significant difference between PT and non-PT groups in mean reduction of reported "average," and "worst" pain levels (on a 0-10 scale) between the initial and 1st FU. Mean reduction ± SD of "average" pain levels were: PT 1.65±2.33 and; non-PT 0.90 ± 2.59 (p=0.04). Mean reduction of "worst" pain levels were: PT 1.84±2.52 and non-PT 1.04±2.60 (p=0.02). Mean reduction of "current" pain did not have any statistically significant differences between the two groups: PT 0.98±2.65 and non-PT 0.52±2.42 (p=0.13).

There was also a statistically significant difference between groups in changes in maximum mouth opening with pain and without pain between the initial and FU visits. Mean difference in maximum mouth opening with pain at 1st FU were: PT 2.27±6.25 mm increase and; non-PT 0.64±5.55 mm decrease (p=0.02). Mean difference in maximum mouth opening without pain at 1st FU were: PT 5.50±7.53 mm increase and; non-PT 2.30±6.48 mm increase (p=0.0005)

There were no differences between the two groups in clinical findings of tenderness to palpation of TMJs and muscles of mastication, and lateral range of movements.

Conclusions: TMD patients who proceeded to PT had greater improvements in reported "average" and "worst" pain, and maximum range of mouth opening than those who did not undergo PT. The results of our study supports PT as an effective measure to treat TMD.

Although we were able to derive significant data from this study, there were limitations. Because this was a retrospective study, we encountered some missing data in the patient records due to variability in clinical notes over the 5-year span. In addition, comparisons between various specific physical therapy modalities were not taken into consideration. Additionally, as this study was not randomized, selection bias may be present.

11:20am

ORAL HEALTH STATUS AND RISK OF BACTEREMIA IN PATIENTS UNDERGOING MYELOABLATIVE ALLOGENEIC HEMATOPOIETIC CELL TRANSPLANTATION

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Objectives: *Viridans streptococci* are microorganisms frequently isolated from blood cultures of patients undergoing myeloablative allogeneic hematopoietic cell transplantation (alloHCT). Poor dentition status has been associated with an increased risk of streptococcal bacteremia in the immediate post-alloHCT neutropenic period. The joint task force of the Multinational Association of Supportive Care in Cancer/International Society of Oral Oncology (MASCC/ISOO) and the European Society for Blood and Marrow Transplantation (EBMT) recommend that all patients receive a comprehensive dental and oral evaluation as early as possible prior to high-dose chemotherapy/alloHCT in order to identify and eliminate any potential odontogenic sources of infection. These guidelines are based on the premise that poor oral health status is associated with an increased risk of bacteremia, however the evidence-base is lacking and this risk remains unclear. The objective of this study was to evaluate the impact of oral health status on bacteremia risk in a cohort of patients undergoing therapy for acute myeloid leukemia (AML).

Methods: A retrospective study was conducted in patients with AML treated at Dana-Farber/Brigham and Women's Cancer Center (DF/BWCC) from 2007 to 2011. There was no formal dental assessment prior to AML induction therapy. All patients underwent protocol directed pre-alloHCT dental evaluation that included a standardized examination, comprehensive dental radiographs, and detailed treatment planning guidelines. Poor oral health status was defined as having one or more teeth with (a) periapical pathology requiring endodontic treatment or extraction, (b) advanced periodontal disease with grade 3 mobility requiring extraction, or (c) a history of pericoronitis. It was assumed that oral health status at the time of induction therapy was

the same as the pre-alloHCT evaluation findings. Oral health status at the time of alloHCT was determined by the completion of required dental treatment. Positive blood cultures were recorded from AML induction to day +60 post alloHCT. Organisms that caused bacteremia were classified as "of possible oral source" by a blinded microbiologist. Two-sided Fisher's exact test was used to compare the oral health status of the entire cohort to patients with blood cultures of potential oral source.

Results: From January 2007 to January 2011, 181 patients with AML underwent myeloablative alloHCT at DF/BWCC and were followed through to day +60, and of these, 92 patients met the inclusion criteria and were included in the cohort. The median age was 48 years (range, 24-66) and there was similar distribution of genders. The most common AML induction regimen was daunorubicin and cytarabine (63/92; 68%) and of those that received consolidation therapy (49/92; 53%), almost all patients were treated with cytarabine. Matched-unrelated donor and matched-related donor alloHCTs were preformed in 56/92 (60%) patients and 37/92 (40%), respectively. Nearly all patients (90/92; 98%) received cyclophosphamide and total body irradiation for alloHCT conditioning and the majority of patients (83/92, 90%) received tacrolimus/methotrexate (n=51) or tacrolimus/sirolimus (n=32) for GVHD prophylaxis. Over half of patients (51/92, 54%) experienced mucositis during their course of therapy for AML. Acute GVHD (grade II-IV) developed in 42% (39/92) of patients within day +60, with six patients (6/39, 15%) presenting with oral cavity manifestations. Pre-alloHCT dental evaluations were completed in 91/92 (99%) of patients. Of the 13/91 (14%) patients identified as having poor oral health status, 13/13 (100%) completed all required dental treatment prior to alloHCT. Bacteremias occurred in 63/92 (68%) patients, and 12/63 (19%) had positive blood cultures of potential oral source. *Coagulase-negative staphylococci* was the most frequently isolated microorganism in blood cultures, occurring in more than half of patients with bacteremia (35/63, 56%). *Streptococcus mitis* was the most frequently occurring microorganism of potential oral source (7/12, 58%). Of the 12 patients with positive blood cultures of potential oral source, 1/12 (8%) patient developed bacteremia during induction and 11/12 (92%) patients developed bacteremia during alloHCT. Of the 13/91 (14%) patients identified as having poor oral health status, one patient (1/13; 8%) had a positive blood culture with a bacteria of potential oral source during induction/consolidation (p=0.68).

Conclusions: Poor oral health status was not associated with an increased risk of bacteremias of potential oral source at either AML induction/consolidation or alloHCT. Risk of such bacteremia in the setting of myeloablative alloHCT may be related more to overall gastrointestinal translocation. Prospective studies are needed to better define risk factors for bacteremia and to better optimize dental screening protocols to be as evidence based and cost effective as possible.