# Systematic Review of Hepatocellular Carcinoma Spinal Metastasis.

C. Rory Goodwin MD PhD; Vijay Yanamadala MD; Alejandro Ruis-Valls; Nancy A Abu-Bonsrah BS; Ganesh Shankar MD, PhD; Eric W. Sankey BS, MD; Ilya Laufer MD; Mark H. Bilsky MD; Charles Fisher MD; John H. Shin MD; Daniel M. Sciubba BS, MD

1Department of Neurosurgery, The Johns Hopkins University School of Medicine, Baltimore, MD, USA., 2Department of Neurosurgery, Massachusetts General Hospital, Boston, MA, USA., 3Department of Neurological Surgery, Memorial Sloan-Kettering Cancer Center, New York, NY, USA., 4Department

CNS 2016 ANNUAL MEETING San Diego CALIFORNIA SEPTEMBER 24-28, 2016

## Learning Objectives

By the conclusion of this session, participants should be able to: 1) Describe the literature on hepatocellular carcinoma metastasis to the spine

## Introduction

Hepatocellular carcinoma (HCC) frequently metastasizes to the spine. The impact of medical and/or surgical intervention on overall survival has been examined in a limited number of clinical studies, and herein we systematically review these data.

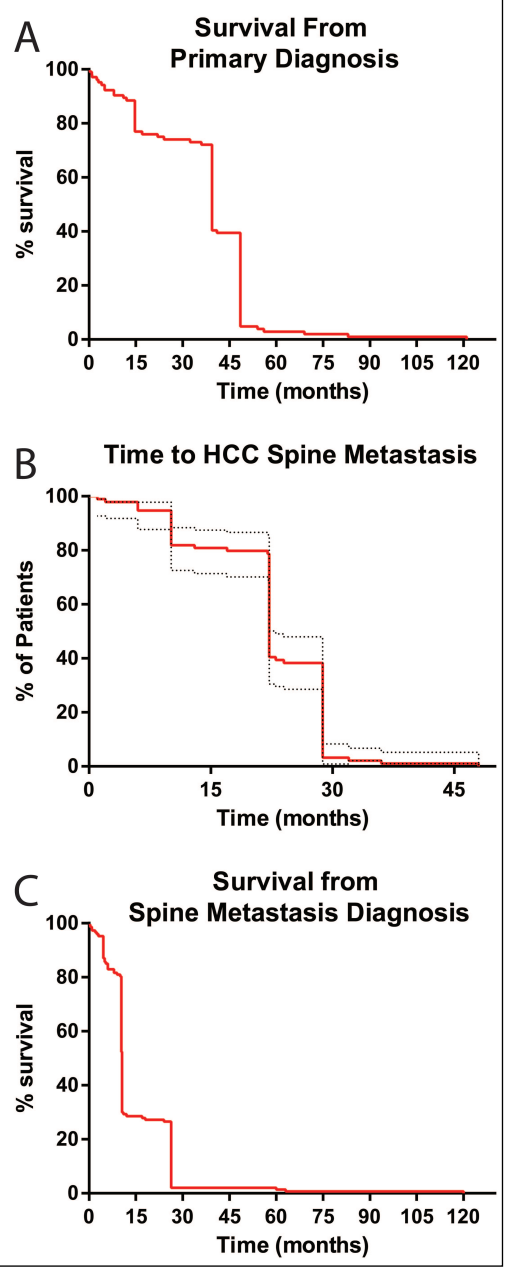
## Methods

We performed a literature review using PubMed, Embase, CINAHL, and Web of Science to identify articles that reported survival, clinical outcomes and/or prognostic factors of HCC patients with spinal metastases. The methodological quality of each review was assessed using the PRISMA tool.

## Results

: 26 studies (152 patients) met the inclusion criteria and were treated with either surgery, radiotherapy, chemotherapy and/or observation, respectively. There were 3 retrospective cohort studies, 17 case reports, 5 case series, and 1 longitudinal observational study. Of the patients with known overall survival after diagnosis of spinal metastasis, survival at 3 months, 6 months, 1 year, 2 years, and 5 years was 95.2%, 83.0%, 28.6%, 2.0%, and 1.4% respectively. The median survival after diagnosis of the metastasis was 0.7 months in the patients who received no treatment, 7 months in the patients treated with surgical intervention alone, 6 months for patients who received chemotherapy and/or radiation and 13.5 months in the patients treated with a combination of surgery and medical management. All other clinical or prognostic parameters were of low or insufficient strength.

Figure 2




## Conclusions

Patients diagnosed with HCC spinal metastasis have a 10.6 month overall survival. Further analysis of patients in prospective controlled trials will be essential to the development of treatment algorithms for these patients in the future.

Figure 3