

Bicentric real-life analysis of the molecular portrait of patients with early onset metastatic biliary tract cancer

Theresa Schmalfluss^{1,2}, Gerald Prager^{4,5}, Hossein Taghizadeh^{1,2,3,4,6}

1 Division of Oncology, Department of Internal Medicine I, University Hospital St. Pölten, St. Pölten, Austria. 2 Karl Landsteiner University of Health Sciences, Krems, Austria 3 Karl Landsteiner Institute for Oncology and Nephrology, St. Pölten, Austria. 4 Comprehensive Cancer Center Vienna, Medical University of Vienna, Vienna, Austria. 5 Department of Medicine I, Clinical Division of Oncology, Medical University of Vienna, Spitalgasse 23, 1090, Vienna, Austria. 6 Center for Cancer Research, Medical University of Vienna, Vienna, Austria.

Introduction

Biliary tract cancer (BTC) is an aggressive malignancy with a dismal prognosis. Although BTC has been explored more closely in the recent years, there are still no data on patients with early onset biliary tract cancer (EOBTC).

Methodology

In this bicentric, real-world retrospective case-series, we studied the clinical data and molecular characteristics of therapy-refractory patients diagnosed with metastatic EOBTC who were below 50 years old at the age of initial diagnosis. The patients were treated between the years 2015 to 2021 at the two tertiary centers Medical University of Vienna and the University Hospital St. Poelten. Molecular profiling included next-generation sequencing panel, immunohistochemistry, tumor mutational burden (TMB) analysis, and microsatellite instability (MSI) testing.

Conclusion

Based on our analysis, molecular profiling is feasible in tertiary centers for patients with metastatic EOBTC to provide molecular-guided treatment approaches.

Results

- In total 60 patients included
- 10 had EOBTC, 4 males, 6 females
- Age at initial diagnosis was below 50
- Intrahepatic (n=7) subtype was most common
- In most cases, n=48; 80%, patients received a platinum-based therapy in first line

FIGURE 2: NUMBER OF PATIENTS (IN %) WITH MOST FREQUENT GENETIC ABERRATION IN A TOTAL OF 48 PATIENTS

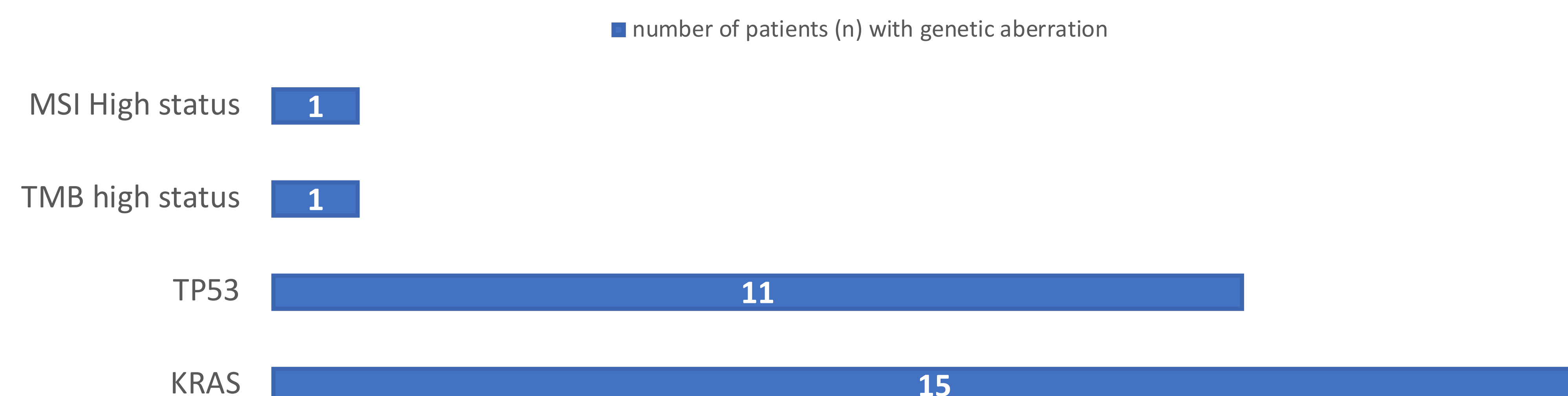


FIGURE 3: FLOW CHART OF THERAPY REGIME

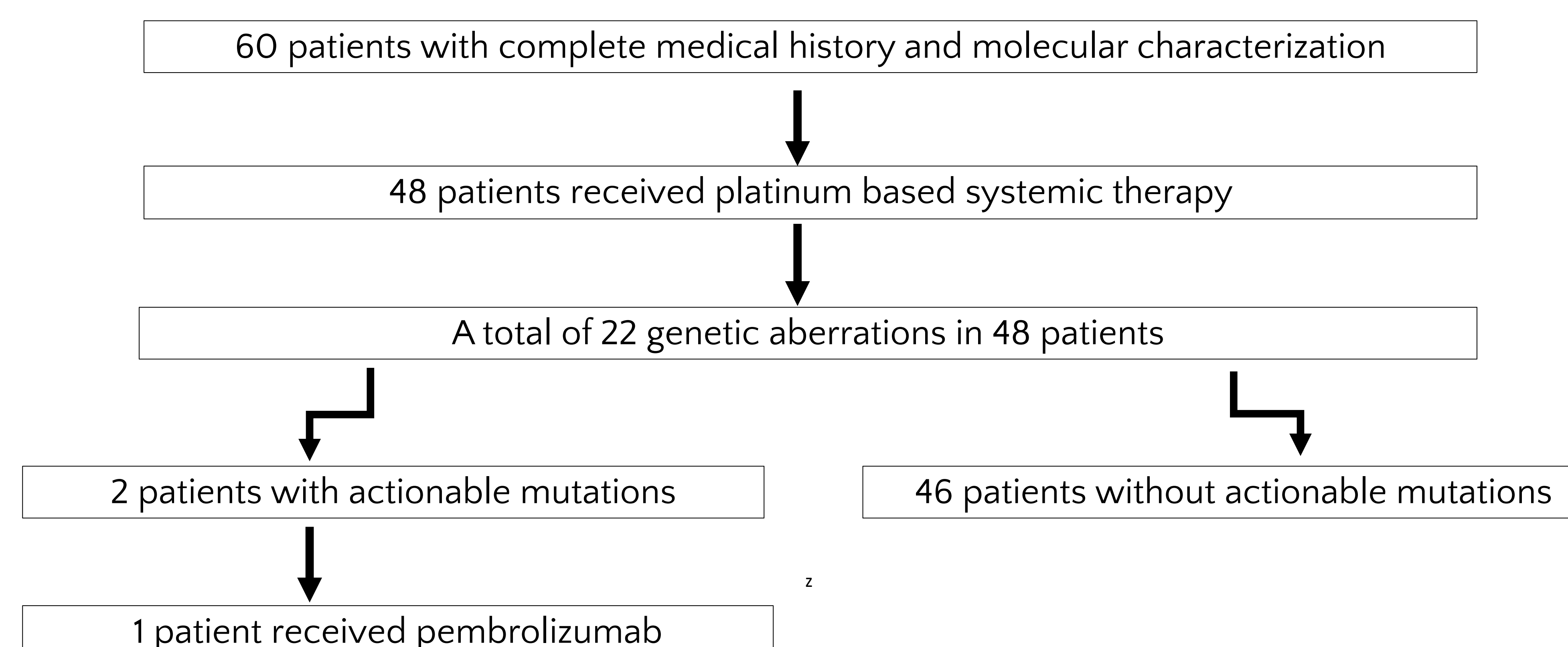
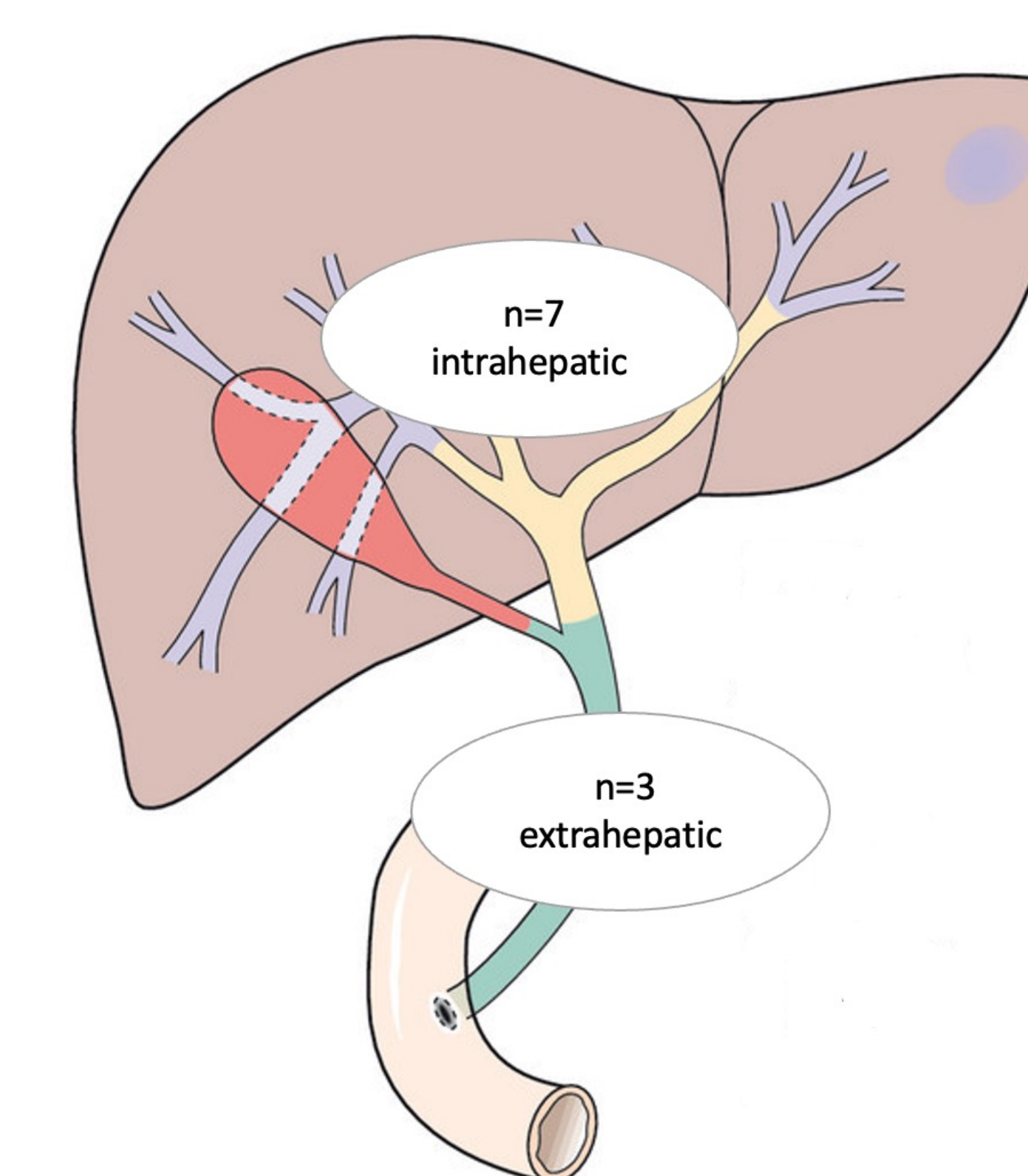


FIGURE 1: NUMBER OF PATIENTS ACCORDING TO TUMOR SITE (N)



- 8 patients were smokers
- 1 patient with history of Primary sclerosing cholangitis
- 3 patients with history of inflammatory bowel disease
- A total of 122 genetic aberrations was found in 48 patients
- The most frequent mutations affected KRAS (n = 15), TP53 (n = 11)
- MSI-high and TMB-high status were both detected in one female patient
- 2 patients had actionable mutations
- 1 patient received pembrolizumab and received complete response

...