

Sorafenib Induced Hand and Foot Syndrome

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ABSTRACT

Sorafenib a multikinase inhibitor has been approved by the FDA for the treatment of thyroid, hepatocellular and renal cell carcinoma. Hand-foot syndrome / palmar - plantar erythrodysesthesia causes redness, swelling and pain on the palms of the hands and / or the soles of the feet. Sometimes blisters also appear. Here, we report a post right hepatectomy hepatocellular carcinoma patient who developed hand and foot syndrome after a dose with sorafenib.

Key words: Sorafenib, Hand and Foot Syndrome, Multikinase Inhibitor,

Hepatocellular, Carcinoma.

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INTRODUCTION

Sorafenib has been approved by the FDA for the treatment of primary renal cell carcinoma, thyroid carcinoma and hepatocellular carcinoma.¹⁻⁸ It is a multikinase inhibitor (tyrosine kinase, Raf serine / threonine kinases). It also inhibits vascular endothelial growth factor (VEGF), platelet - derived growth factor β (PDGF β), and tumour progression.^{2,3-9} Adverse reactions to sorafenib are gastrointestinal (diarrhoea, increased amylase and lipase, nausea, constipation), dermatological (acne, flushing, rash / desquamation, hand - foot syndrome (HFD), alopecia, pruritus), hyperthyroidism, hypertension and hypoalbuminemia.¹ HFD is characterized by reddening, swelling, numbness and desquamation on palms and soles. In this case report, we describe a case of HFD caused by sorafenib.

METHOD

The case report is of a 71 year old lady with a known case of diabetes mellitus (type II), peripheral neuropathy on Metformin 500 mg BD and H.Mixtard 30-0-20 was diagnosed with hepatocellular carcinoma (grade III) with IVC tumor thrombus and underwent Right hepatectomy. She was started on Sorafenib 200 mg once daily.

While on therapy after 14 days she complained of loose stools with a frequency up to 5 times / day, which was managed conservatively. Since the patient was found to be tolerating, the dose of Sorafenib was hiked up to 200 mg twice daily. Later on after two months she developed toe nail ulcers, paronychia, oral ulcers, diarrhea, all probable side effects of sorafenib.

Since last 5 days she again presented with multiple abscesses over her plantar region of right and left foot (fig. 1). Since she was on sorafenib and with a history of previous similar lesions, a possibility of sorafenib induced hand foot syndrome was suspected.

Upon investigation, her blood counts were normal with mildly elevated inflammatory markers (CRP 25.7 mg/L).

She was managed conservatively with intravenous Ampicillin and Cefoperazone sulbactam. She was also advised with off-loading and

proper foot care. Insulin doses were adjusted to maintain euglycemia. Repeat blood counts were stable and iv antibiotics were stopped after 7 days, Symptomatic improvement was noted. Further Medical oncology consultation was sought and planned to stop sorafenib.

Causality assessment was carried out using the Naranjo's scale. The algorithms showed that sorafenib was the "definite" (Naranjo's score 9) cause of this adverse drug reaction.

DISCUSSION

Sorafenib induced hand and foot syndrome has been reported in patients with breast cancer, melanomas, renal cell cancer and hepatocellular cancers.^{4,5,6} The incidence of hand and foot syndrome is 25-30% of patients who are on standard dose i.e; 400 mg twice daily and is found to be well tolerated. Sorafenib is also associated with other dermal changes such as alopecia, pruritis, nail changes, flushing etc.

Compared to the hand and foot syndrome caused by cytarabine, 5 FFU and MTX, the one caused by sorafenib though it is indistinguishable, it is less severe, more localized and affects friction and weight bearing acral surfaces.¹ The HFD due to sorafenib is usually dose dependent and the dose is usually resorted for the abatement of the symptoms.¹ In this present case the laboratory parameters were normal in range once the drug was stopped. Thus, we can label the case as sorafenib induced hand and foot syndrome.

Prevention of HFD can be made by reducing the exposure of hands and feet to hot water, excessive rubbing, and applying moisturizing cream, exfoliating the hyperkeratosis palms and soles.⁶

Various possible mechanism has been evaluated for sorafenib induced hand and foot syndrome, among which the anti- VEGF property has been hypothesized to be the probable pathogenesis.⁷ Sorafenib is been widely found to be effective for various solid tumors, hence as its use increases the need for high index suspicion is warranted for the prevention, early detection and treatment of HFD.

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CONFLICTING INTEREST

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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