



## Fatal Herb Senna: A Case Report

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### Authors' contributions

This work was carried out in collaboration among all authors. Authors MGT and KT designed the study and wrote the protocol. Author HO wrote the first draft of the manuscript. Authors SG and VI did the literature search and also wrote part of the manuscript. All authors read and approved the final manuscript.

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Case Report

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### ABSTRACT

Due to its laxative effects, senna (*Cassia angustifolia*) has been used frequently in our country and the whole world. We aimed to present a case in which a probable hepatotoxicity and death occurred because of senna used in large quantities for a long time due to its laxative effects.

A sixty years old female patient admitted our emergency service with the complaints of weakness, abdominal pain and distension ongoing for about three days. She expressed that she had drunk a kind of tea made of senna for the treatment of her chronic constipation a long time and especially in the last month mostly.

According to anamnesis, physical examination and investigations, we concluded that our patient may have toxic hepatitis due to consuming a large amount of senna recently for her chronic constipation. We consulted the patient to gastroenterology and organ transplantation service. She was followed for multiple organ failure, but did not respond to the interventions and died before liver transplantation.

It mustn't be forgotten that when used in an uncontrolled way, senna which is used as a laxative by people and easily reachable, can cause toxic hepatitis and also death.

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## 1. INTRODUCTION

*Senna* (*Cassia angustifolia*) is a plant that has frequently been used in our country and whole world for its laxative effect [1,2]. It has this effect by changes in colonic motility, alter colonic absorption and fluid secretion through sennasoids which senna contains [1]. It's known that senna when consumed for a long time and in large amounts has many adverse effects, a rare of which is hepatotoxicity [2,3]. In our case presentation, we aimed to present a case in which a probable hepatotoxicity and death occurred because of senna used in large quantities for a long time due to its laxative effects.

## 2. THE CASE

A sixty year old female patient admitted to our emergency service with the complaints of malaise, abdominal pain and distension for about three days. No illnesses were present in her history. She expressed drinking senna tea for a long time, in large quantities especially in the last months, for chronic constipation (Fig. 1). She denied any medication usage and drinking alcohol or smoking. In physical examination, blood pressure 90/60 mmHg, pulse rate 110beats/minute, temperature 37°C and SPO<sub>2</sub> 98% by pulse-oximeter in room air. We recognized generalized abdominal tenderness but no rebound and defense in abdominal examination. The results of the blood samples which were taken firstly in emergency service were leukocyte number (WBC) 29,600/ml, platelet number 130,000/ml, C-reactive protein (CRP) 4.62 mg/dl, International normalized ratio (INR) 3.3, creatinine 4.29 mg/dl, urea 37 mg/dl, aspartate aminotransferase 8827 U/L, alanine aminotransferase 4011 U/L, lactate dehydrogenase (LDH) 9214 U/L. Viral hepatitis markers (Hepatitis A,B,C) and HIV were negative. On the ultrasound report there was wide spread free fluid (ascites) especially perihepatic and perisplenically, also hepatic arteries prominent but no blood flowing in hepatic veins. We suspected portal vein thrombosis and got abdominal computerized tomography (CT) on the same day. Abdominal CT report showed there was no portal vein thrombosis, but free fluid and decreased liver parenchymal density.

We thought the case having toxic hepatitis due to senna tea and consulted the patient to

gastroenterology and organ transplantation service. She was hospitalized in intensive care unit with the aim of liver transplantation. The patient who was hospitalized as conscious and having fifteen Glasgow Coma Scale (GCS) was intubated electively after she lost consciousness and having dyspnea in two hours. Then the patient got worse clinically day by day. She got therapy for multiorgan failure, but didn't respond the treatment and died on the eighth day in intensive care unit before transplantation.

## 3. DISCUSSION

Constipation is a major health problem that occurs more frequently with age and affects the life comfort excessively. Functional constipation, without specific etiology, forms a considerable part of this problem. Senna is among the main herbal laxatives used to solve this problem [4]. It was introduced in treatment by the Arabs in the 9th century and pharmacological investigation on senna started in the 20<sup>th</sup> century [5]. Senna is detected as the most common used plant in herbal teas marketed in Turkey [2].



**Fig. 1. Senna tea leaves**

Sennosides are the main components of senna and rheinanthrone is active metabolite which is produced from sennasoids by the bacteria of the colon [6]. This metabolite shows laxative effect by changes in colonic motility, absorption and secretion resulting fluid accumulation [1]. Direct inhibition of the Na/K ATPase system prevents the absorption of sodium and water from the bowel lumen into the circulation [1]. In our case, the patient expressed that she drank senna tea especially excessively in the last month against

her constipation problem to get maximum laxative effect.

Senna is normally advised in acute constipation for a short time use, but it can cause many adverse effects such as myasthenia, tetany, anemia, greasy stool, gastrointestinal hemorrhage, renal failure, hyperaldosteronism, cachexia, and hepatitis in long time use for chronic constipation [2]. Many adverse effects are connected with laxative effect. In the literature portal vein thrombosis associated with Senna was also reported [1].

Chronic ingestion of very large amounts of senna may be related to hepatotoxicity [7-9]. However, hepatotoxicity associated with senna is rare [3]. The cause of hepatotoxicity related to senna may be uncertain but can be explained by the exposure of the liver to abnormal quantities of toxic metabolites of anthraquinone glycosides [1]. According to anamnesis, physical examination and investigations, we concluded that our patient may have toxic hepatitis due to consuming a large amount of senna recently for her chronic constipation. Additionally in our case, we suspected for portal vein thrombosis according to USG report, but the abdomen CT didn't supported it.

#### 4. CONCLUSION

It mustn't be forgotten that when used in an uncontrolled way, senna which is used as a laxative by people and easily reachable, can cause toxic hepatitis and also death.

#### CONSENT

All authors declare that written informed consent was obtained from the patient for publication of this case report.

#### ETHICAL APPROVAL

It is not applicable.

#### COMPETING INTERESTS

Authors have declared that no competing interests exist.

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