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Melena Associated with *Ganoderma lucidum*: A Case Report

Ganoderma Lucıdum İle İlişkili Melena: Vaka Sunumu

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ABSTRACT

Introduction: Melena is a life-threatening complaint of patients presenting to the emergency department.

Case Report: Herein we present a case of *Ganoderma lucidum*-induced melena in a young man who did not have any symptoms of gastrointestinal disease before.

Conclusion: Some toxic effects of *G. lucidum* have been reported previously. However, to the best of our knowledge, this is the first case report of upper gastrointestinal bleeding associated with *G. lucidum*.

Keywords: *G. lucidum*, melena, mushroom

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ÖZET

Giriş: Melena acil servis hastaları arasında görülen hayatı tehdit edebilecek bir bulgudur.

Olgu Sunumu: Biz burada, önceden bilinen herhangi bir mide şikayeti olmayan genç bir erkek hastada *Ganoderma Lucidum* kullanımı ile indüklenen bir melena olgusu sunacağız.

Sonuç: *G. lucidum*'un bazı toksik etkileri bildirilmiştir ancak bildiğimiz kadarıyla, bu vaka bildirilen *G. lucidum* ile ilişkili ilk üst gastrointestinal sistem kanamasıdır.

Anahtar Kelimeler: *G. lucidum*, melena, mantar

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Introduction

Melena is a life-threatening complaint of patients presenting to the emergency department. The most common cause of melena is peptic ulcer, followed by anticoagulant drug overdose, tumors of the upper gastrointestinal system, esophageal varices, and Mallory–Weiss syndrome (1). Melena is an emergency condition that should be diagnosed and treated promptly. Moreover, the underlying cause should be elucidated to prevent recurrent bleedings.

Ganoderma lucidum is a popular herbal drug that has long been known for its beneficial effects on human health and longevity in Asian countries. *G. lucidum* has been shown to have several pharmacological effects, including antitumor, antiinflammatory, antidiabetic, and antioxidative effects (2). In general, it is an easily tolerable medication with mild side effects such as nausea and vomiting (3).

Herein we present a case of upper gastrointestinal bleeding associated with *G. lucidum* in a young man who did not have any symptoms of gastrointestinal disease before.

Case Report

A 33-year-old man was admitted to the emergency department with the complaint of melena. He defined that he had large amounts of black stool twice since morning. He had complained of upper abdominal pain lasting for several minutes for 2 days.

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He did not have any past history of dyspepsia, stomach ache, or melena. His medical history did not reveal any systemic disease and he was a non-smoker. However, he was obese and was taking a herbal drug (Ganoexcel-Ganoderma Lucidum-Reishi) since 3 weeks to lose weight. Other than this drug, he was not taking any medication. His vital signs were within the normal limits on admission, with blood pressure of 110/80 mmHg and heart rate of 98 beats/min. Physical examination revealed mild tenderness in the epigastric region. Melena was confirmed with rectal examination. Laboratory evaluation revealed severe anemia, with a hemoglobin level of 7.8 g/dL and hematocrit of 23.1%; his prothrombin time was 8.1 s, activated partial thromboplastin time was 21.5 s, international normalization ratio was 0.9, platelet count was 199×10^3/µL, and bleeding time was 3 min. Other laboratory data including liver and renal function tests and electrolyte levels were normal. Two units of blood were transfused, and he underwent endoscopic evaluation of the upper gastrointestinal tract, which revealed 2 ulcers of 1 cm diameter on the hyperemic bulbus. Active bleeding was not observed from the ulcers. Because the ulcers were localized on the bulbus, a biopsy specimen was not obtained. The rapid urease test was negative for *Helicobacter pylori*. The patient was diagnosed as having herbal drug-induced peptic ulcers. Esomeprazole (40 mg *bid iv*) and sucralfate (1 g *tid* oral) were administered for treatment along with withdrawal of the herbal drug. Because the patient did not have any gastric symptom before using the herbal drug, these ulcers were considered to be associated with that drug. The patient made full recovery with conservative treatment, his post-transfusion hemoglobin levels remained stable, and he was discharged 2 days after admission.

The patient's informed consent was obtained before preparation of this report.

Discussion

Ganoderma is a family of mushrooms that grow on wood in tropical regions, and it is used for a variety of beneficial therapeutic effects, including anticancer, antioxidant, and antibacterial effects (2, 3).

Some mild side effects associated with *G. lucidum* have been reported previously, such as nausea and vomiting (3). Tao et al. (4) reported that the first and second phases of aggregation of platelets of healthy volunteers were obviously inhibited when a water-soluble extract of *G. lucidum* at different concentrations was added to the platelets in vitro. They demonstrated that the inhibitory effect was related to the dosage, and platelet aggregation induced by adenosine diphosphate (ADP) was obviously inhibited after the patients had taken *G. lucidum* 1 g 3 times a day for 2 weeks. The results of this study suggested *G. lucidum* as an effective platelet aggregation inhibitory agent. Ganodermic acid S, isolated from *G. lucidum*, has been shown to inhibit the platelet response to thromboxane A2 in one of the pathways and to inhibit the platelet response to collagen (5). In a prospective, randomized, double-blind study, healthy volunteers received orally *G. lucidum* capsules 1.5 g (n=20) or placebo (n=20) daily for 4 weeks, and this mushroom was shown not to cause any impairment of hemostatic function in healthy volunteers (6). In our case, the laboratory data related to the coagulation parameters were normal and gastrointestinal bleeding was considered to be a result of mucosal damage.

In a previous report, Levitan et al. (7) described the case of a 27-year-old female patient with gastrointestinal bleeding following ingestion of *Chlorophyllum molybdites* and reported the presence of some hematological abnormalities consistent with disseminated intravascular coagulation. In this report, the authors suggested that the gastrointestinal hemorrhage was due to disseminated intravascular coagulation, a toxic effect of the mushroom.

On the other hand, some studies have reported about the mucosal healing and antiulcer effects of some herbal drugs including *G. lucidum* (8). In a study in rats, Gao et al. (9) suggested that the polysaccharide portion of *G. lucidum* is an active component with healing effects on acetic acid-induced ulcers, and it may represent a useful herbal preparation for the prevention and treatment of peptic ulcers. However, such studies are limited in number and the exact effects of this mushroom on the gastrointestinal mucosa remain unclear.

Some toxic effects of *G. lucidum* have been reported previously (10). However, to the best of our knowledge, this is the first case report of upper gastrointestinal bleeding associated with *G. lucidum*.

Conclusion

Clinicians should be aware of the adverse effects of this herbal drug, *G. lucidum*, in order to ensure accurate diagnosis and prompt treatment of patients admitted to the emergency department with different symptoms after taking this medication.

Informed Consent: Written informed consent was obtained from the patient.

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