CLINICAL VIGNETTE

Bee Sting and Ischemic Colitis

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Ischemic colitis has been described after anaphylactic shock.[1-4] There has only been two other reported cases of bee sting anaphylaxis resulting in ischemic colitis.[1,2] Patients with ischemic colitis due to anaphylaxis present with hypotension and syncope, or near syncopal episodes, and are treated for anaphylaxis. There can be a delay in their gastrointestinal symptoms of rectal bleeding. Colonoscopy confirms ischemic colitis, and it occurs most commonly in the region of the rectosigmoid colon but can involve the distal transverse colon and descending colon.

Case presentation

A 51-year-old man was working in his backyard when he was stung on his right ear by a bee. He subsequently developed shortness of breath and diaphoresis with a near syncope episode. He was brought to the emergency room for an evaluation. The patient presented to the emergency room with a blood pressure of 85/68, pulse of 94, and respiration rate of 18 with a temperature of 98.5. He was treated for bee sting anaphylaxis with Epinephrine 0.3 mg SQ, IV Benadryl, IV Pepcid, and IV Solumedrol. Over 2 liters of IV fluids were also given. Twenty minutes after medications were given, his BP improved from 85/68 to 99/56 with improvement of his generalized weakness. Four hours later, his BP was 136/76. His lactic acid level was elevated to 10.4 (0.7 to 2.1). Blood cultures x 2, 1 out of 2 grew out coagulase negative Staphylococcus, which was presumed to be a contaminant.

In the emergency room, he did not complain of any gastrointestinal symptom. Seven hours after presentation, he developed crampy lower abdominal pain and rectal bleeding. Colonoscopy revealed moderate to severe descending colon colitis. The colonic mucosa was erythematous with whitish exudates. There was obscuration of the normal vasculature and multiple punctate ulcers were seen throughout the rest of colon. Biopsies of distal transverse colon, mid descending colon, sigmoid colon, and rectum showed evidence of ischemic changes. However, biopsies from the cecum, ascending colon, and proximal transverse colon showed normal colonic mucosa. The terminal ileum was intubated, and random random biopsies from the ileum were unremarkable.

Discussion

There are multiple causes of ischemic colitis. They range from cardiovascular conditions, surgery, and drug etiologies.[5] The common pathway leading to ischemic colitis is a degree of low flow state (hypoperfusion) where colonic blood flow is compromised causing ischemia. Areas most commonly at risk of colonic ischemia are the splenic flexure and rectosigmoid colon; both areas have minimal collateral flow, making these "watershed" areas prone to ischemia. The colonoscopic findings of our patient showed ischemic changes in the distal transverse colon down to the descending colon and rectum.

Anaphylaxis is a very serious condition and can result in a fatal allergic hypersensitivity reaction. The standard treatment of anaphylaxis is epinephrine intramuscularly or intravenously along with IV fluids.[6,7] As in our patient, glucocorticoids may also be used, but their use has been questioned.[6] Glucocorticoids take several hours to work, and they may not be useful in the emergency treatment of acute anaphylaxis.[8]

Anaphylaxis results in hypotension and can cause a low blood flow state, which can lead to ischemic colitis. Acute ischemic colitis due to anaphylaxis, although uncommon, has been reported in the literature.[1-4] Our patient had a delay in his gastrointestinal symptoms, which is typical.[1-4] The delay can be anywhere from several hours[3] to 7 days[2] after the anaphylactic episode.

In a reported case,[4] a 29-year-old woman who 45 minutes after eating a cheddar cheese sandwich developed anaphylactic shock. She had abdominal pain and was admitted to the ER with unrecordable blood pressure. Epinephrine, IV hydrocortisone, chlorpheniramine, and IV fluids were given. Ninety minutes later, her blood pressure came up to 130/70. She developed rectal bleeding three hours after eating the cheese. Plain abdominal film showed thumb printing in the descending colon. Flexible sigmoidoscopy done 4 days after admission showed linear ulcers in the rectum and biopsies confirm ischemic colitis.

In another case, a 67-year-old white female received amoxicillin 1 g orally as prophylaxis for bacterial endocarditis before dental surgery.[3] One hour after the antibiotic, she had epigastric pain, followed by loss of consciousness. In the emergency room, she had an undetectable blood pressure. Methylprednisolone IM was given, and her blood pressure recovered to 90/60. She then developed severe abdominal pain accompanied by rectal bleeding. It appeared that several hours had passed before she started having severe abdominal pain along with rectal bleeding. Colonoscopy and biopsies confirmed ischemic colitis of the rectosigmoid colon.

In review of the literature, we found only two other cases of ischemic colitis induced by anaphylactic shock following a bee sting.[1,2] Park S., et al[1] described a 41-year-old male becoming hypotensive after being stung by a swarm of bees. He was given empiric antibiotics, bowel rest, and "copious" IV fluids given. Following an unknown period of time, the patient developed hematochezia. A colonoscopy showed endoscopic and pathologic findings consistent with ischemic changes in the rectum. In a second case, Masaaki Y., et al[2] described an 83-year-old woman admitted to emergency room for shock after being stung by a bee on the right forearm and left ear. There was no detail on how she was treated for her anaphylaxis. One week after presentation, she had severe diarrhea. Colonoscopy was done, and it showed widespread deep ulcer covered with thick "white moss" at the rectum. Biopsies of the rectosigmoid colon showed findings consistent with ischemic colitis. A follow-up colonoscopy done 9 weeks later showed complete resolution of the rectal ulcers.

Conclusion

Anaphylaxis after bee sting can result in ischemic colitis. Anaphylaxis is treated with IV fluids and epinephrine.[7,9] We found only two other cases of ischemic colitis after bee stings. Typically when ischemic colitis occurs, there is a delay in gastrointestinal symptoms of rectal bleeding after the onset of the anaphylactic episode.[1-4] The delay can be from several hours[3] to 7 days[2] after the anaphylactic episode. There was a seven hour delay of rectal bleeding in our patient. Ischemic colitis is easily recognized and can be confirmed by colonoscopy and biopsies. There is no long term sequela after the episodes of ischemic colitis from anaphylaxis. In fact, the literature shows repeat colonoscopies done several months after the anaphylactic episode that the colonic mucosa heals and the ischemic colitis resolves.[2,4] Our patient has not been readmitted for any symptoms of gastrointestinal bleeding.

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Submitted August 23, 2015