

# A Rare Case of Bee Sting Associated With Pancreatic Necrosis

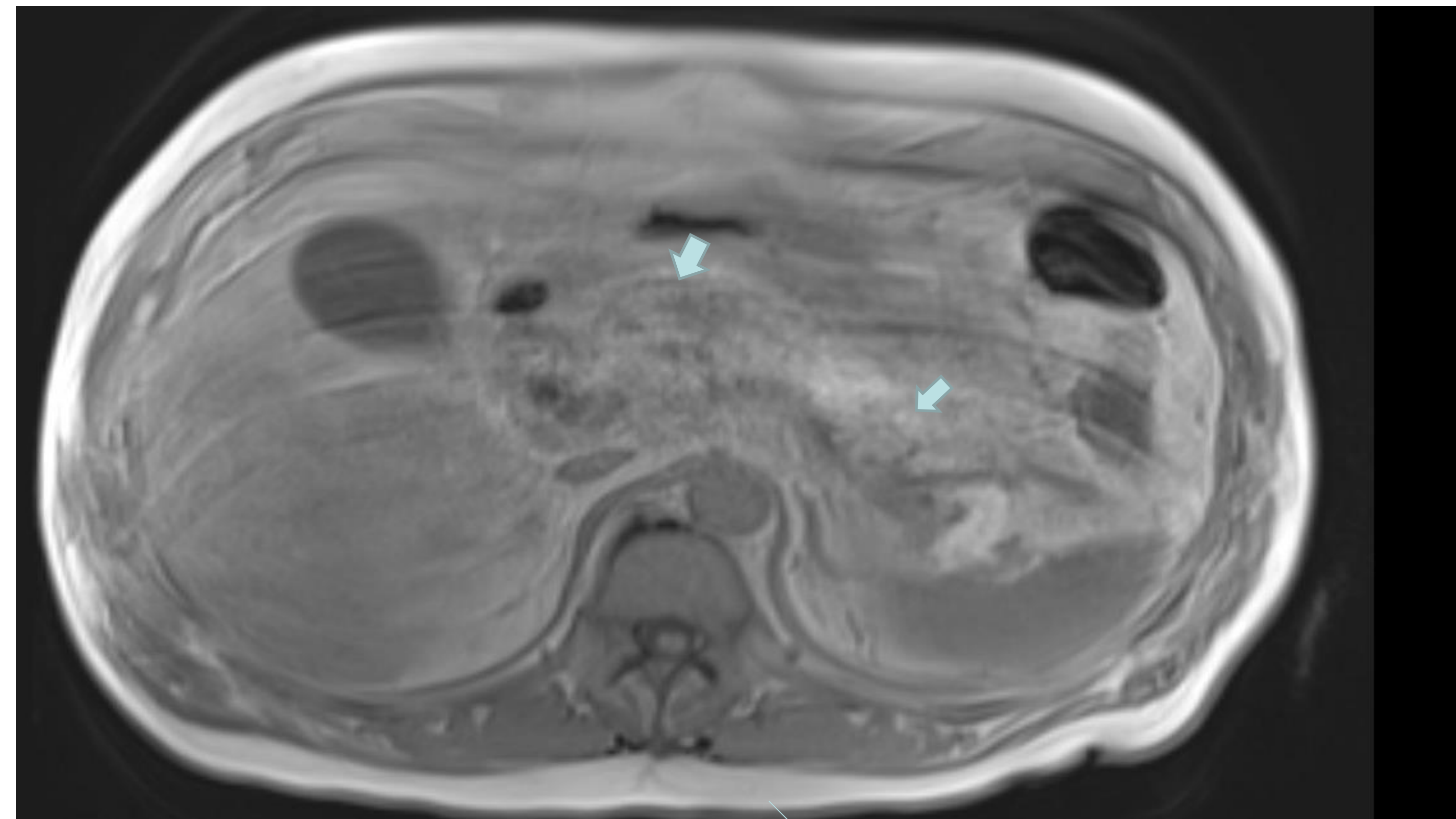
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## Introduction

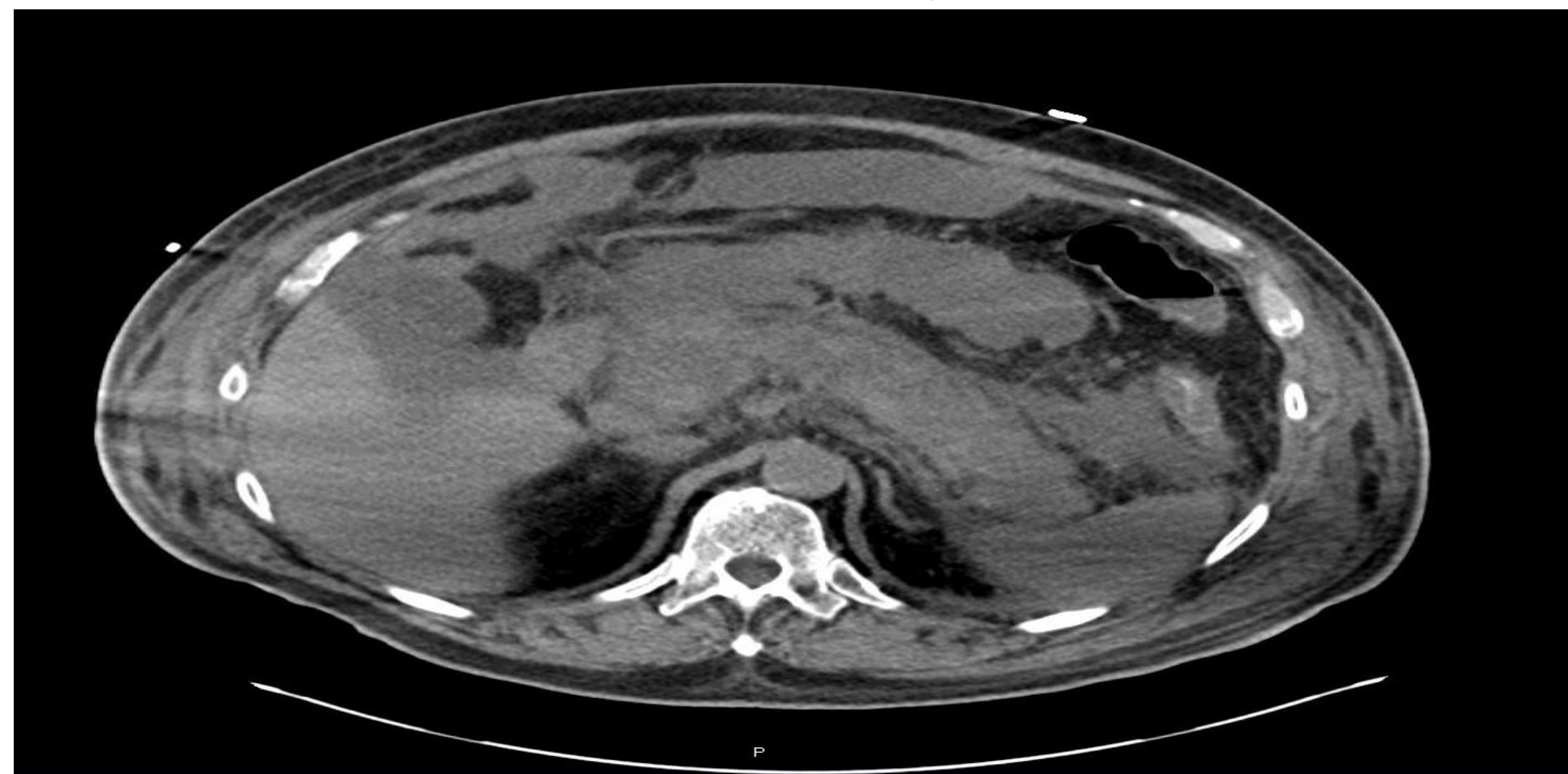
- Hymenoptera insect sting bite was known to cause toxic reactions leading to hemolysis, serum sickness, rhabdomyolysis, vasculitis, renal failure, myocarditis, and neuritis. It is extremely rare to present with pancreatic involvement, as noticed in our case.
- Here we report an 82-year-old with severe necrotizing pancreatitis and multi-organ failure secondary to a bee sting

## Case Presentation

- An 82-year-old male presented with complaints of nausea, non-bilious, non-bloody vomiting, and abdominal pain within an hour following a bee sting.
- He has a past medical history of colon cancer s/p cecal resection with side-to-side anastomosis, hypertension, and hyperlipidemia.
- His Initial blood workup was significant for elevated BUN/Creatinine- 60/3.1 mg/dl, elevated lipase – 6800 u/l, elevated AST/ALT- 161/116 u/l, with normal ALP and T Bil-1.4 mg/dl.
- CT abdomen showed markedly enlarged and edematous with extensive peripancreatic stranding, fluid and inflammation
- He was started on intravenous fluids and a broad-spectrum antibiotic, Meropenem.
- During the hospital course, his clinical condition deteriorated with the development of ARDS and sepsis, he had an episode of PEA arrest, which he got through with resuscitation in 4 minutes.
- After nine days in the hospital with continuous pressor requirements and worsening mental status, the family decided to make him comfortable care.



MRI Abdomen showing T1weighted- increased signal intensity and acute interstitial pancreatitis.



CT Abdomen- early imaging shows ongoing inflammation with peri pancreatitis stranding. Early hemorrhagic transformation and inflamed pancreatic head.

## Discussion

- Well-known is bee sting-associated anaphylaxis and local reactions. However, systemic side effects are lesser known, including acute kidney injury, pulmonary edema, myocardial injury, elevated liver enzymes, coagulopathy, and acute pancreatitis (AP).
- Dopamine, histamine, hyaluronidase, and phospholipase A2 (PLA2) enzymes are present in a bee sting. PLA2 is primarily responsible for systemic reactions.
- Melittin, a primary molecule along with PLA2, causes vascular endothelium and cell membrane disruption causing acinar cells to induce AP.
- The cornerstone of AP treatment remains fluid resuscitation, pain control, and nutrition support.
- Healthcare providers working in rural communities and endemic areas should be aware of the complications of a bee sting and consider broad differential for AP.

## Conclusion

- Pancreatitis and necrosis is associated with substantial morbidity and mortality.
- Optimal management requires a multidisciplinary approach, IV antibiotics penetrating the pancreas, drainage, or debridement in persistent cases.
- Given the rarity of the bee sting-associated pancreatitis without a specific anti-toxin, it would be clinically challenging to manage.
- We noticed that this could also progress rapidly and require immediate transfer to a tertiary care center, which was unsuccessful in our case due to an unstable clinical condition.
- Ongoing research is critical and need focus on determining the molecular mechanisms behind bee-induced acute pancreatitis and its clinical sequelae.