

individuals recovered, but 22 people were hospitalized, 10 admitted to intensive care, and four (age 73 to 84) had severe impairment of speech. These patients were unable to communicate, developed coma and seizures, and died 7, 12, 24 and 98 days, respectively, after ingesting the toxic mussels. All seriously affected patients were elderly and several still suffered neurological effects, particularly memory loss, many months after the initial event. This clinical feature was the reason for proposing the term, Amnesic Shellfish Poisoning (ASP) (Bates et al., 1988).

All patients had eaten cultivated mussels from the Cardigan River in Prince Edward Island. There were about 3 reported cases of illness for every 1,000 servings of mussels, suggesting a low morbidity. Appropriate regulatory actions were taken to prevent further consumption of mussels or other shellfish from the area.

No previous problems with mussels from this area had been experienced. Testing of shellfish at risk is routinely carried out by the Federal Department of Fisheries and Oceans, using a mouse bioassay. Paralytic shellfish poison (due to saxitoxin) had never been detected in the Cardigan River area, although this type of shellfish poisoning is an annual occurrence on the Atlantic seacoast.

When mussels from the Cardigan River area were investigated more closely, it was determined that there was no evidence of heavy metal or pesticide contamination, nor of existence of bacterial toxins. The unknown toxin did not cause instant death (within 5 minutes) of mice, as would be the case with saxitoxin. Instead, mice died 2-3 hours after injection, preceded by unusual, yet characteristic, scratching motions which started within 10-30 minutes, followed by tremors, circling movements, "praying gestures" and "wet dog shakes." Such symptoms have also been observed in cases of Sarin or Tabun poisoning.