

Haff's Disease -- a Perplexing Public Health Problem

Background

Haff's disease, a little known fishborne illness causing severe rhabdomyolysis, has occurred in epidemics affecting thousands of individuals in Europe. In 1997, six cases were identified in the US. The etiology, environmental factors, and magnitude of the problem are unknown.

Methods

Haff's disease was defined as a fishborne illness with an acute onset of muscular pain and laboratory evidence of rhabdomyolysis. We identified cases through informal networking from January through December 1997 among county and state epidemiologists as well as FDA toxicology laboratories. We interviewed patients, reviewed medical charts, and did a fish trace-back. FDA laboratories tested implicated fish for known toxins and developed a mouse animal model for further toxin analysis. To identify the toxin, mass spectrometry and chromatography was used.

Results

Since the first US case in 1984, 12 cases have been reported (eight in California, two in Texas, two in Missouri). All but one case were part of a cluster. All patients had eaten buffalo fish from the Mississippi river or its tributaries. Five patients were Jewish immigrants from the former Soviet Union, three were African Americans. All six cases in 1997 were hospitalized; one patient required assisted ventilation. FDA laboratories excluded known toxins, such as anatoxin or microcystin, from implicated fish. The mouse bioassay reproduced pathology including hematuria. Further tests such as nuclear magnetic resonance are still underway.

Conclusions

Fish consumption in the US is increasing. Haff's disease has the potential to affect a large portion of the population. This report demonstrates the emergence of this disease domestically and provides strategies for interdisciplinary action.