



G63 Calcified Primary and Metastatic Pancreatic Carcinoma Discovered in Skeletonized Remains

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The goals of this presentation are to report a case of interest detailing the unexpected discovery of calcified masses during reduction of a body to bone for anthropologic study

Calcification in adenocarcinoma is not unusual and is reported to occur in many types of gastrointestinal neoplasia. Calcification associated with pancreatic carcinoma has been reported in the context of both discrete calculi formation and diffuse calcifications. Calculi are usually described within pancreatic ducts proximal to the tumor mass, presumably as a function of obstruction. However, stone formation has also been reported to precede identifiable carcinoma, making the causal and temporal relationship a topic of debate. Diffuse calcification of a tumor mass, surmised to be a type of calcinosis, is described in both primary and metastatic sites. Diffuse calcification in pancreatic neoplasia is described largely as either peripheral plaques or central, irregular nodules. This is a report of an archival case of calcified pancreatic cancer that is unusual with regards to the nature of the calcified masses and the circumstances in which they were discovered and obtained. Two relatively large, previously undetected finely trabeculated hard masses representing the calcified remains of the primary tumor and a hepatic metastatic focus were retrieved after the rendering of retained remains to bone for the purpose of anthropologic study.

A 76-year-old female first reported acute symptoms of weight loss, epigastric pain and nausea to her family physician in April of 1978. A diagnosis of cholelithiasis was made at that time. She was temporarily lost to follow up for one year and was eventually admitted for work-up and evaluation of her progressive epigastric pain. During her admission history she reported marked weight loss over several years that she attributed to poor diet. A history of pancreatitis was denied. Abnormal findings upon physical exam included a pelvic mass, hypokalemia, anemia, and malnutrition. There is no record of abnormal calcium metabolism or radiologically identified abnormal calcifications. An exploratory laparotomy was performed that revealed an inoperable carcinoma of the head of the pancreas resulting in palliative care. Her clinical course deteriorated until she was found to be unresponsive. An autopsy was not performed.

Since the body was not claimed, New Mexico State law provided for the retention of the remains for medical education purposes via the department of Anthropology, Forensic Division, The University of New Mexico. In August 1979, the process of reduction to skeletal remains began. During the cut-down procedure, the initial harvesting of bones from the decomposed remains, previously undetected hard masses were found in the pancreas and liver. These were retained for continued enzymatic flesh removal. Subsequently, two calcified masses and a smaller dense stone were recovered. Current study of the archived stones revealed a 19.8-gram ovoid, white, trabecular, hard mass measuring 5.6 x 4.3 x 3.9 cm and a smaller, similar curved mass that measured 2.7 x 2.1 x 2.0 cm and weighed 4.5 grams. Chemical analysis of the masses revealed a composition of calcium carbonate. The small dense gallstone was rough, ovoid, light brown and measured 1.9 x 1.4 x 1.2 cm.

The calcifications in this case are unique in that they are apparently completely calcified primary and metastatic tumor masses that were not detected during medical evaluation. The masses consist of calcium carbonate in a lattice-like pattern recapitulating the extra-cellular space of the tumor. In the literature, calcifications in pancreatic neoplasia are commonly described as discrete nodular calcifications or peripheral plaques. The architectural complexity of the calcifications in this case is noteworthy. Since an autopsy was not performed, the discovery of hard hepatic and pancreatic masses during the initial bone harvest was unexpected. Although, there was a 5-month interval between death and discovery of the masses, it is unlikely that this represents some type of postmortem calcification. It is probable that evidence of the existing calcifications was either lost or not collected. Viewed from the standpoint of forensic anthropology, this case begs a different type of question. It can be speculated whether a positive identification would have been made if this were a case of discovered skeletal remains including the two calcified masses, given the above medical history of a missing person.

Pancreatic Cancer, Skeletal Remains, Forensic Science