

Suture Material as a Nidus of Common Bile Duct Calculi

The pathogenetic mechanisms leading to the formation of "de novo" bile stones in patients with prior cholecystectomy are numerous, and have not been thoroughly studied. Changes in the contents of the hepatic bile, bile stasis, bile infection, and foreign bodies in the common bile duct are considered to be the main causes of the phenomenon (1,2). Reports of the formation of bile stones in the bile ducts on suture materials left after cholecystectomy and choledochotomy are very rare (3,4,5). It can be assumed that in these cases, the surgical thread becomes the nidus for the bile stones.

We report here five cases of common bile duct stones in patients who had undergone cholecystectomy 2–15 years earlier (Table 1). Suture thread was found in the endoscopically removed stones, and probably provided the nucleus of crystallization for them (Figures 1,2). Surgical thread was found in removed stones in about 1.8% of our patients with choledocholithiasis after cholecystectomy (during observation). A temporal relationship between the surgery and the appearance of the clinical symptoms of choledocholithiasis was not observed.

Table 1: Patients who had common bile duct stones with suture material inside.

Patient	Sex	Age	Years after cholecystectomy	Clinical presentation	Treatment
1	F	51	9	Jaundice, pain, fever	Sphincterotomy, Dormia basket
2	F	62	2	Jaundice, pain, fever	Sphincterotomy, Dormia basket
3	F	54	7	Recurring biliary colic	Sphincterotomy, Dormia basket
4	F	78	15	Jaundice, pain	Sphincterotomy, endoprosthesis
5	M	64	2	Jaundice	Sphincterotomy, mechanical lithotripsy

These cases are presented here in order to draw attention to the potential attachment of suture material to the lumen of the bile duct, and the implicit dangers. Although we have not been able to establish the mechanism for this phenomenon – it may result from the surgical technique – it is undoubtedly associated with the use of hard or nonabsorbable suture materials in bile duct surgery.



Figure 1: Surgical thread protruding from a crushed bile duct stone.



Figure 2: Surgical thread with a knot, found at the center of a common bile duct stone.

References

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