MAGNETIC INFRARED LASER THERAPY IN MANAGEMENT OF CHOLELITHIASIS

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Successful treatment of acute cholelithiasis using acupuncture and herbs has been reported in a 37-year female patient (1). Needles were inserted on two sides of the body at VB 34, V 19, F 13 and TR 6 points. Back points were linked to F 13 and electrostimulation was used. Six treatments were delivered on alternate days and traditional Chinese herbal teas improving gastrointestinal function were prescribed. The further regimen was stimulation of acupuncture points VB 34, F 3, PR 6, F 13, V 18 and V 19. This treatment was conducted daily for two weeks and for successive six weeks on alternate days. An ultrasound examination showed no bile stones and inflammation before the end of therapy.

One of authors of this paper reproduced this result in 1990 by using acupuncture and homeopathy which dissolved three bile stones in a 68-year female patient. A patented discovery of Galkin and Chechulin has been crystalization of bilirubin in an unsaturated solution of mammalian bile, a Galkin-Chechulin effect occurring as conversion of bilirubin micellae to a gel-like condition during bacterial catarrhal gallbladder inflammation because of impaired protective properties of lipoproteins secondary to a lower pH of the colloid solution.

Cholelithiasis is a metablic hepatobiliary disease producing stones in the gallbladder or small biliary ducts. Gallbladder stones occur in 32 percent of women and 16 percent of men aged over 40. Bile infection is seen in 30 percent of cases. The stone formation is related to an imbalance of bile stabilizers (bile acids and lecithin) and biliary concentrations of mineral and organic substances ($CaCO_3$, bilirubin, cholesterol and others) when the biliary lithogenicity coefficient is above 1. The liver normally produces 1 ml of bile a minute. Its specific weight is 1.015 to 1.035. Bile contains lecithin, sodium and potassium chlorides, fatty ether acids, soaps, magnesium, iron, iodine, trace amounts of copper, zinc, manganese, some vitamins and enzymes, and has pH of 7.0.

Bile stones are seen in 90 percent of patients with gallbladder cancer, and cholelithiasis is a cause of gallbladder malignant transformation in 4-5 percent of patients.

At present, a generally accepted cause of gallbladder stone formation is high-cholesterol hepatic bile whose coming into the gallballder completes the stone formation process. Therefore, liver dysfunction has a primary role in cholelithiasis, and the dominant surgical principle of cholelithiasis treatment - resection of the gallbladder together with bile stones - does not prevent further stone formation in the liver and biliary ducts. Despite surgery remains a dominant intervention for cholelithiasis, the search for a noninvasive pathogenetically relevant treatment is continuing.

Some are bluntly opposed to choleretic elimination of stones larger than 1 mm in diameter (2). The argument is that choleretic or cholekinetic drug-induced or spontaneous painless elimination of gallbladder or cystic duct stones is indeed possible in patients with cholelithiasis, but only when the stones are millet grain-sized and abnormalities of the cystic duct or duodenal papilla are absent. The argument holds that potent cholekinetic drugs sometimes can cause the release of larger stones from the gallbladder into the cystic duct and on to the intestine, but this process is associated with a severe hepatic colic, jaundice, hepatitis, severe edema, deformation and dilation of all biliary ducts or even with a risk of acute hepatic failure. It follows, the authors argue, that expulsion of stones larger than 1 mm in diameter, i.e. visible roentgenologically, is an unacceptable treatment.

For all surgical dogma, the search is continuing for effective noninvasive elimination of gallbladder and duct stones. Gallbladder stones have been first successfully dissolved with chenodeoxycholic acid in Meio clinic in 1972. A chenodeoxycholic acid isomer, urodeoxycholic acid, has been used over the recent years. The acid inhibits hepatic cholesterol synthesis, thereby making bile nonlithogenic. However, stone dissolutuion is slow. A Japanese study has been reported to suggest that effects of these drugs are potentiated by unrefined soy products.

Available experience does not provide criteria for predicting the efficacy of medical treatment and indications or contraindications for it. In addition, medical lysis of bile stones is associated with

numerous adverse effects such as appetite impairment, bloating, nausea, vomiting, diarrhea and allergy due to toxic effects of lithocholic acid. Complete medical lysis of bile stones is obtainable in 30-40 percent of patients. Treatment is unsuccessful if diameters of stones are 15-20 mm. Stones have been seen to recurring most of patients.

Available lytic agents do not quite meet efficacy requirements and the new drug monooctanin, an octanic acid ether, was adopted in 1983. Monooctanin infusion at a rate of 3-12 ml at hour has been documented to lyse cholesterol stones within 4-7 days. Another octanic acid drug, octalgin, was adopted later.

The numerous shortfalls of the above mentioned methods of dissolving bile stones have prompted us combined use of homeopathy, laser therapy and electrostimulation of the liver area and the gallbladder projection. Case forms were developed to reflect a detailed medical history and results of previous examinations and treatments.

The work-up comprised a complete blood count, urinalysis, blood chemistries, duodenal probing before and after treatment, biochemical tests of cystic bile and hepatobiliary system ultrasound scans. Review roentgenography and excretory cholecystography were left out of mandatory studies for a number of known reasons.

Most of researchers categorize bile stones into cholesterol, metal-cholesterol, cholesterol-phosphatide and phosphatide-protein ones. Inflammation usually produces bilirubin stones and noninflammatiry conditions cholesterol stones. We attributed much importance to findings of cystic bile tests, in particular total bilirubin and cholesterol concentrations in three portions of bile. This allowed differential use of homeopathic formulas relevant to stone composition with observance of the key principle of homeopathy - similarity. Thus homeopathic cholesterol was prescribed to patients with high cholesterol concentrations in cystic bile, and calcium and bilirubin drugs were used in therapy when calcium bilirubinate was predominant in bile. Homeopathic regimens comprised constitutional, pathogenetic and symptomatic drugs which were changed in progress of therapy.

Electrostimulation of the liver area and gallbladder projection was used for analgesia or stimulation proper, depending on the patient condition, complaints and clinical findings. Numbers of treatments were individualized and varied from ten to 20. Both regimes were combined in some patients.

Laser therapy, homeopathy and electrostimulation were performed daily and strictly met these requirements:

(1) delivery of the procedure at the same time, in the same setting and by the same operator,
(2) strict sequence of treating reflexogenic areas and biologically active points,
(3) electrostimulation-laser treatment sequence.

CASE HISTORY

Patient Ts., a 58-year female with the diagnosis of chronic calculus cystitis and a 4 cm gallbladder stone. She was referred for surgical treatment, but refused to be operated. With contraindications absent, the patient was given three two-week courses of therapy: initial seven 20 to 120 Hz, 40 mA electrostimulation treatments of 20-minute duration and magnetic infrared laser irradiation of liver and gallbladder areas using a MILTA device with 50 Hz pulse rate and 35 mTl magnetic induction.

The homeopathic regimen used calcarea carbonica, bryonia, chelidonium, chammomilla amd podophilum. An ultrasound examination at 8 days showed stone fragmentation into parts 4-5 mm in diameter. A follow-up ultrasound scan at the end of therapy revealed no stones in the gallbladder. The patient presented no complaints, and ultrasound showed no gallbladder stones at a follow-up examination at six months.

A total of 73 patients with cholelithiasis (8 men aged 21 to 49 years and 65 women aged 20 to 78 years) have been examined and treated on an outpatient basis over the past 22 months. An average disease duration was five years. Therapy resulted in a stable clinical improvement in all patients. Laboratory, ultrasound and X-ray studies showed stone lysis in 65 (87 percent) patients.

The high rate of gallbladder stone lysis appeared to be related to differential selection of patients with uncomplicated cholelithiasis, individualization of therapy and its adequate readjustments.

As for mechanisms of pathogenetically specific therapy of cholelithiasis, change of the bile chemistry, lithogenicity coefficient and resultant stone lysis might be an adequate explanation for a laboratory physician or a surgeon, but it does not fully fit into concepts of quantum medicine. Thus

we do not share the common opinion that the gallbladder is only a passive bile reservoir which should be resected early in stone formation "to be on the safe side".

Another side worth mention is major functions of the gallbladder: contractile, concentrating, absorptive, secretory, enzymatic, pressure regulaton in the biliary system and hormonal (release of a cholecystokinin antagonist called anticholecystokinin).

The same applies to the gallbladder meridian acupuncture concept. An extensive literature and our own evidence indicate that attempted acupuncture analgesia in cholecystectomized patients is often unsuccessful, and these patients are more responsive to other interventions. Analysis of changes induced in "dysfunctional" gallbladders by therapy confirms what has been said above - a stone-clogged gallbladder inaccessible for liver-produced bile changes its shape and size in progress of therapy. Ultrasound examination shows its reopening and subsequently a significant decrease in the number of stones, i.e. return of function. Our explanation is that combined effects of different components of reflex therapy restore the energetics of the gallbladder enabling it to recruit several humoral factors to lyse stones.

This evidence has been submitted by the presenting author for patenting as a new methodology of reflex therapy of cholelithiasis and urolithiasis. Applications have been also filed for the patenting of improved versions of these methodologies which focus on evaluation of the central nervous system and improvement of its response to reflex therapy.

REFERENCES

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