

REMISSION OF FILARIAL CHYLURIA AFTER TREATMENT OF COEXISTENT CONDITIONS

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ABSTRACT

Between April 1965 and March 1984, 659 patients (mean age 52.3 years) with chyluria were encountered (probably from filariasis) and 323 were followed for a mean period of 71.9 months (range 1 to 210 months). Of the 323 patients, chyluria was apparently exacerbated by another condition in 132 (40.8%), and often remitted with effective treatment of the coexistent condition. The findings suggest that chyluria is often accompanied by other physiologic or pathologic processes and treatment of these coexistent conditions should be the initial therapeutic approach.

Chyluria is rare in the temperate climate but relatively common in tropical and subtropical countries. Okinawa is a subtropical endemic area for filariasis and patients with chyluria are still commonly seen. We suspected that chyluria can relate to allied conditions after the following experiences: an adult female patient with known cardiac amyloidosis developed chyluria during congestive heart failure from cardiac tamponade and complete atrioventricular block. After operative construction of a pericardial window and insertion of a pacemaker, congestive failure was relieved and chyluria ceased; an adult male patient developed chyluria with dysuria from benign prostatic hypertrophy. Following suprapubic prostatectomy, chyluria remitted soon after operation. These occurrences stimulated us to review our experience with

patients with chyluria and coexistent conditions and forms the basis of this report.

MATERIALS AND METHODS

Between April 1965 and March 1984, 659 patients with chyluria were seen at the Chubu Hospital in Okinawa. The age range was 9 to 95 years with an average of 52.3 years. The male to female ratio was 1:1.4. Three hundred and twenty three of these patients were followed for a mean period of 71.9 months (range 1 to 210 months). Besides the gross appearance, chyluria was confirmed by the finding of lymphocytes in the urine, proteinuria and cloudy supernatant after urine centrifugation (residual fat). These 323 patients were examined for exacerbation of chyluria and remission (reversal of the above criteria) after treatment of coexistent conditions including pregnancy.

RESULTS

Of the 323 patients, chyluria was apparently related to coexistent medical conditions in 132 or 40.8% (Table 1). These disorders included urostatics accompanying pregnancy, benign prostatic hypertrophy, prostatic carcinoma, neurogenic bladder, large myomata of the uteri, urethral stenosis, and renal stone. In 42 pregnant women, chyluria developed during the second or third trimester and remitted within 2 to 180 days (mean 51.5

Table 1
Remission of Chyluria After Treatment
of Coexistent Conditions*

Coexistent Condition	# Pts.	Remission (%)
Pregnancy	42	42 (100)
Benign prostatic hypertrophy	16	11 (69)
Incidental operation	14	11 (79)
Pulmonary tuberculosis	10	6 (60)
Urethral stenosis	8	6 (75)
Diabetes mellitus	8	4 (50)
Myoma uteri	6	4 (67)
Congestive heart failure	5	3 (60)
Prostatic carcinoma	3	2 (67)
Hyperthyroidism	3	2 (67)
Hepatic cirrhosis	3	0 (0)
Neurogenic bladder	3	0 (0)

*Three patients or more in each category

days) after delivery. Six females had multiple babies and all developed chyluria during each pregnancy. In 11 of 16 "chyluric" patients accompanied by benign prostatic hypertrophy, chyluria remitted after "open" or transurethral resection of the prostate. Internal urethrotomy or urethral dilatation was performed in 8 patients with chyluria and coexistent urethral stenosis. Chyluria remitted in 6. Chyluria also remitted after hysterectomy in 4 of 6 patients with large myomata uteri. In 2 of 3 patients with prostatic carcinoma, chyluria disappeared after endocrine therapy. One patient had a large renal stone with hydronephrosis. After pyelolithotomy, chyluria ceased on the 7th post-operative day.

Other disorders besides urostitis also produced an exacerbation or, after treatment, remission of chyluria. These disorders included congestive heart failure, incidental operation, diabetes mellitus (without neurogenic bladder), pulmonary tuberculosis, hyperthyroidism, hepatic cirrhosis, cerebrovascular disease, peptic ulcer, bone fracture, common cold, and menstruation (*Table 1*). Chyluria remitted in 3 of 5 patients treated for congestive heart failure, the etiology of which were hypertension (3), amyloidosis

(1) and cardiomyopathy (1). Where hypertension and cardiomyopathy were unable to be treated effectively, chyluria persisted. Chyluria worsened soon after operation in 14 patients--appendectomy (5), cholecystectomy (5), hysterectomy (2), inguinal herniorrhaphy (1), and oophorectomy (1). In 11 of these 14 patients, chyluria remitted within 10 days after operation. Chyluria developed in 10 patients with pulmonary tuberculosis and remitted after drug treatment in 6. In 8 patients with diabetes mellitus, chyluria occurred with poor control of blood sugar levels and remitted in 4 after better management of the diabetes. Two female patients described cyclic chyluria with onset before menstruation and remission afterward. Aggravation of chyluria was also noted with peptic ulcer disease (2 patients), common cold (2 patients), and acute bone fractures (2 patients) with cessation of chyluria after treatment or spontaneous remission of these coexistent disorders. Of interest in patients with hepatic cirrhosis (3), neurogenic bladder (3), and hemiplegia from cerebrovascular disease (2) where treatment of the underlying condition was marginally effective, chyluria persisted. These data are summarized in *Table 1*.

Thirty-one of these 323 patients died. The cause of death were malignancy (11), infectious diseases (5), and miscellaneous (15). No patient died of chyluria.

DISCUSSION

Okinawa is an endemic area for parasite disease and each of these patients had an epidemiologic history consistent with exposure to filariasis. Although chyluria is known to undergo spontaneous exacerbation and remission, causative factors are sometimes attributed to physical activity and fatty meal (1). Our findings suggest that coexistent conditions are an important factor. Thus in 40.8% of patients followed, amelioration of chyluria occurred after treatment of an accompanying condition although the rate of remission varied. Yamauchi (2) described subsidence of chyluria after alleviation of urinary stasis and proposed that urostatics caused fornical rupture and promoted communications of the urinary system with nearby lymphatics, peripheral tissues, and veins. However, we noted remission of chyluria after treatment of conditions other than urostatics including congestive heart failure, pulmonary tuberculosis, and diabetes mellitus. The burden on the lymphatic system increases after a fatty meal (3) or physical activity (4) and also with congestive heart failure, hepatic cirrhosis (with portal hypertension) (5) and ureteral obstruction (6). Increased visceral lymph production (e.g., heart failure or cirrhosis) or impedance to lymph drainage (e.g., pregnancy) from coexistent conditions in the setting of diseased retroperitoneal lymphatics (i.e., filariasis) probably accounts for the cyclic exacerbation and remission after treatment of these other conditions. On the other hand, where treatment of coexistent conditions is only marginally successful, chyluria can be expected to persist.

Various regimens have been proposed for treatment of chyluria. These include a wide variety of drugs, irrigation of the renal pelvis with silver nitrate, and interruption and stripping of the renal pedicle. Irrigation with silver nitrate is effective but the recurrence rate is as high as 51.1% (7). Operative ligation and stripping of renal pedicle lymphatics is risky and only partly successful. On the other hand, because chyluria often occurs in conjunction with other conditions and can often be effectively managed by treatment of these coexistent conditions, this therapeutic approach should be tried initially.

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