A 56-YEAR-OLD AFRI-
can American man
was evaluated for in-
termittent muscle
weakness, resting
tremor, unsteady gait, and frequent
falls. The onset of the symptoms oc-
curred 10 years before the evalua-
tion and was followed by a slow de-
terioration. At 25 years of age, the
patient had 2 surgical procedures for
removal of disfiguring accumula-
tions of fat around the anterior and
posterior of the neck. His medical
history was otherwise unremark-
able, and there was no history of al-
cohol abuse, diabetes mellitus, thy-
roid diseases, and dyslipidemia. His
family history was significant for a
sister who was diagnosed with mul-
tiple sclerosis, neuropathy, and nar-
colepsy. His mother, maternal grand-
mother, and maternal aunt were
reported to have lipomas, but none
of these individuals were known to
have additional neuromuscular
problems.

The physical examination find-
ings were remarkable for a strik-
ingly abnormal distribution of fat
around his neck and over his shoul-
ders (Figure 1). He exhibited
muscle weakness in his arms, hip
flexors, and feet extensors. The deep
tendon reflexes and sensation were
preserved. The results of his fundo-
scopic examination did not reveal
pigmentary retinopathy. He was
alert, oriented, and had normal
speech and cognition.

The electromyogram revealed
20% short-duration, polyphasic
motor units in the deltoid and tri-
ceps muscles and chronic distal de-
nervation in the legs. A muscle bi-
opsy specimen showed variation in
the fiber size, some necrotic fibers,
and many ragged red and blue fi-
bors (Figure 2). The creatine ki-
nase level was elevated (800 U/L;
to convert to microkatal per liter,
multiply by 0.0167). The echocar-
diogram revealed mild concentric
left ventricle hypertrophy. Respira-
tory chain analysis performed on
the muscle specimen detected defi-
ciencies in complex I/III, II, and IV,
with complex I/III satisfying major
modified Walker criteria for respi-
ratory chain disorders.1 Mitochon-
drial DNA analysis revealed a het-
roplasmic m.8344A>G mutation
of the transfer RNA specific for
lysine. The heteroplasmy was 86%
and 75% in muscle and blood,
respectively.

COMMENT

Our patient presented with the typi-
cal findings of multiple symmetric
lipomatosis (MSL), also known as Madelung disease or Launois-
Bensaude syndrome. This condition is characterized by multiple lipomas that are typically distributed around the neck and shoulders, neuropathy, progressive muscle weakness, ataxia, and hearing loss. Multiple symmetric lipomatosis should be suspected in the presence of diffuse, subcutaneous deposits of adipose tissue in the neck, upper trunk, arms, and legs.

Multiple symmetric lipomatosis has a high incidence in the Mediterranean region, is more common among men, and is associated with increased alcohol intake, hyperlipoproteinemia, hyperuricemia, diabetes, and hyperthyroidism. The typical presentation is after 40 years of age, and there is a wide spectrum of clinical manifestations.

The association of MSL with mitochondrial dysfunction was first described in 1991. The most common molecular abnormality is the m.8344A>G mutation, which was also present in our patient. Other mitochondrial DNA defects, such as the m.8363G>A mutation and multiple and large mitochondrial DNA deletions, have also been reported. Interestingly, the m.8344A>G mutation is the most common defect in patients with MERRF (Myoclonic Epilepsy associated with Ragged Red Fibers) syndrome, but the prevalence of mitochondrial cytopathy among patients with MSL is unknown.

There is no effective treatment for MSL, but abstinence from alcohol may limit the progression. Although there is no evidence of a clinical benefit, a mitochondrial cocktail consisting of ubiquinone, levcarnitine, and vitamins C (ascorbic acid) and E (α-tocopherol) may be used in hopes of improving the impaired mitochondrial function.

Careful neurologic evaluation and appropriate diagnostic investigations are required for patients with MSL, and the diagnosis should be considered in patients with progressive myopathy and multiple lipomas.

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