

n-3 Polyunsaturated fatty acids for gallstones

강남세브란스병원 내과¹, 연세대학교 의과대학 연구부 - 의생명 시스템 정보학교실²

정지윤¹, 이시영¹, 조재희¹, 도민영¹, 이수연¹, 최아룡¹, 이혜선², 양주연², 이동기¹, *장성일¹

Background/Aims: Ursodeoxycholic acid (UDCA) is the only well-established and widely used agent for dissolving gallstones. Epidemiological and animal studies have suggested potential therapeutic benefits of n-3 polyunsaturated fatty acids (PUFA) for cholesterol gallstones. We evaluated whether adding PUFA to UDCA improves gallstone dissolution in patients with cholesterol gallstones.

Methods: This randomized, prospective, preliminary clinical trial compared the efficacy and safety of UDCA plus PUFA combination therapy (combination group) versus UDCA monotherapy (monotherapy group). The inclusion criteria were gallstone diameter ≤ 15 mm on ultrasonography, radiolucent stones on plain X-ray, and asymptomatic/mildly symptomatic patients. Gallstone dissolution rates, response rates, and adverse events were evaluated.

Results: Of the 59 screened patients, 45 patients completed treatment (24 and 21 in the monotherapy and combination groups, respectively). The gallstone dissolution rate was significantly higher in the combination group than in the monotherapy group (45.7% vs. 9.9%; $p=0.028$). The radiological response rate was also significantly higher in the combination group (90.5% vs. 41.7%; $p=0.001$). In both groups, dissolution and response rates were higher in patients with gallbladder sludge than in those with distinct stones. Four adverse events (2 in each group) were observed, none of which were study drug-related or led to drug discontinuation. The incidence of these adverse events was similar in both groups (combination vs. monotherapy: 9.5% vs. 8.3%; $p=0.890$).

Conclusions: UDCA plus PUFA therapy dissolves cholesterol gallstones more effectively than UDCA monotherapy, without significant complications. Further prospective, large-scale studies of this combination therapy are warranted.

