털리프레신 사용 후 발생한 저나트륨 혈증에 대한 고찰

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Hyponatremia in Patient Treated with Terlipressin

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Terlipressin is a vasopressin analogue used in control of esophageal varix bleeding. Its vasoactive effect in varix bleeding is mediated via V1a receptor, but it has partial V2 receptor agonistic effect that can cause hyponatremia. However, there is no established study that revealed its effect on hyponatremia in Korea. We retrospectively reviewed patients with esophageal varix bleeding treated with terlipressin at least 3 days.

A total of 74 patients were enrolled. All patients had liver cirrhosis with variable degree and esophageal varix bleeding was initially controlled with endoscopic varix ligation. Terlipressin was used as standard dose at least 3 days.

Significant hyponatremia (decrease in serum Na level >5 mEq/L) was found on 11 patients (14.8%) and their mean serum sodium level was decreased from 135.8 mEq/L to 128.4 mEq/L ($p=0.041$). The degree of reduction in serum Na level was positively correlated with initial sodium level ($r=0.404$, $p<0.001$) and negatively correlated with Child-pugh score ($r=-0.256$, $p=0.036$) and age ($r=-0.234$, $p=0.044$) using Pearson correlation test.Significant neurologic symptom was not found within 3 days.

One patient who used terlipressin with prolonged duration showed marked hyponatremia from 135.5 mEq/L to 111.2 mEq/L in five days with marked natriuresis (urine Na 232.2 mEq/L with serum Na level 111.7 mEq/L) and resolved in 2 days after discontinuation of terlipressin. It suggested that hyponatremia in terlipressin is related to both V1a and V2 receptor agonistic effect.

Based upon our study, treatment with terlipressin can cause significant hyponatremia even with the standard dose. Initially normal serum sodium level, relatively young age and low Child-pugh score was related to significant hyponatremia.

Key Words: 털리프레신, 저나트륨혈증, 나트륨뇨
Terlipressin, Hyponatremia, Natriuresis