Sir, males and 5 females, age range 19–56 years) and in 9 healthy controls cross-matched for sex and age. After Since Gill et al.’s [1] original description of increased urine extraction with organic solvents and silica gel col-urinary excretion of prostaglandin E2 (PGE2) in Bartter’s syndrome, many controversies have arisen about the role as previously described [4], and 6-keto-PGF,α and TxB2 played by prostaglandins in this disease, and it is still by the use of commercially available kits (Amersham, Amersham, UK).

As far as the mean urinary excretion is concerned, in involved. Bartter’s syndrome we found a significant increase in Different prostanoids, in fact, sometimes exert oppo- PGE2 (627.5 ± 275.6 vs. 359.6 ± 126.6 ng/day; t = 2.62, site effects on renal handling of electrolytes, regulation of p < 0.02) and 6-keto-PGF1α (394.8 ± 190.1 vs. 194.7 ± 40.3renin release and renal action of antidiuretic hormone, ng/day; t = 3.09, p < O.01), a significant decrease in TxB2 and can counteract the intrarenal action of angiotensin II (123.2 ± 57.3 vs. 184.1 ± 43.9 ng/day; t = 2.47, p < 0.05) in different ways [2]. Therefore, it should be important to and no difference in PGF2α (1,588.6 ± 588.1 vs. know the full urinary pattern of the main arachidonic 1,500.4 ± 488.8 ng/day; t = 0.33, p = n.s.). However, con-acid metabolites in patients affected by Bartter’s syn-

sidering the cutoff values corresponding to eitherdrome to clarify the role played by prostanoids in this mean + 1.64 SD or mean -1.64 SD (i.e. the one-sided 95thsyndrome, but it has never been done. or 5th percentile, respectively), the picture becomes more complicated. In fact, PGE2 values were above the upper limit in 4 patients, no PGF2α values were above the upper main questions: which prostaglandin of the cyclooxyge- nase pathway is more frequently involved in Bartter’s mal range, 6-keto-PGF1α values were above the upper
syndrome and whether a derangement in prostaglandin synthesis is in a hallmark of the disease. To this end we have evaluated the urinary excretion of PGE2, PGF2α, 6-keto-PGF1α, the main metabolite of PGI2, and thromboxane B2 (TxB2), the main metabolite of affected by Bartter’s syndrome in terms of a single prostaglandin excretion. However, since the trend of the mean values pointed toward an increased production of vasodilatory prostaglandins together with a reduction of TxB2, we have also considered the ratio \( \frac{\text{PGE2} \times 6\text{-keto-PGF}1\alpha}{\text{TxB2}} \). This approach seems to improve the discrimination between patients and controls since the ratio fell above the upper limit (95%) of the controls in 7 patients, but it was still in the normal range in 1 (fig. 1).

However, by the use of multivariate discriminant analysis [5], taking into account all 4 prostanoids it was possible to fully discriminate between patients and controls. Moreover, the symmetry of both the weight and sign of the standardized coefficients of the discriminant
function, namely 1.27 PGE$_2$, 0.70 6-keto-PGF$_{1\alpha}$, -1.24 PGF$_{1\beta}$ and -0.52 TxB$_2$, supports the conclusion that a derangement in prostaglandin synthesis is really a constant feature of Bartter’s syndrome, the prevailing picture being that of a rearrangement in prostaglandin production with a shunting toward the vasodilatory ones.


References