

# Beta-trace protein correlates with endothelial function in peripheral resistance arteries in End Stage Renal Disease

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## CONCLUSIONS

- 1. Beta-trace protein (BTP) might be a player in endothelial maintenance in ESRD.**
- 2. Increased BTP levels might represent compensatory mechanism against vascular abnormalities.**

## AIMS

The objective of this study was to correlate levels of circulating BTP with an *ex-vivo* endothelial function in uremic resistance arteries and assess if expression of BTP in uremic resistance arteries differ from controls.

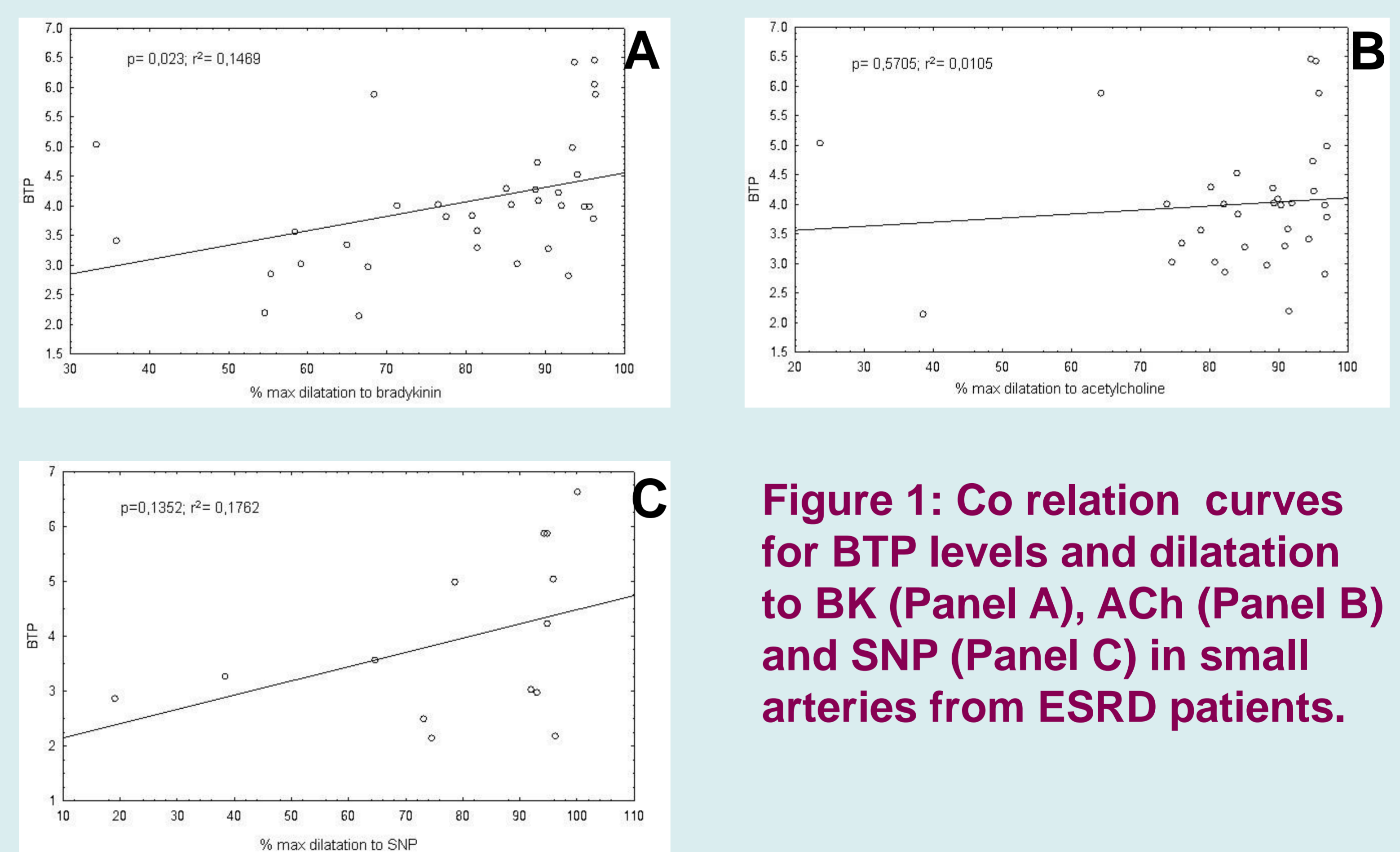
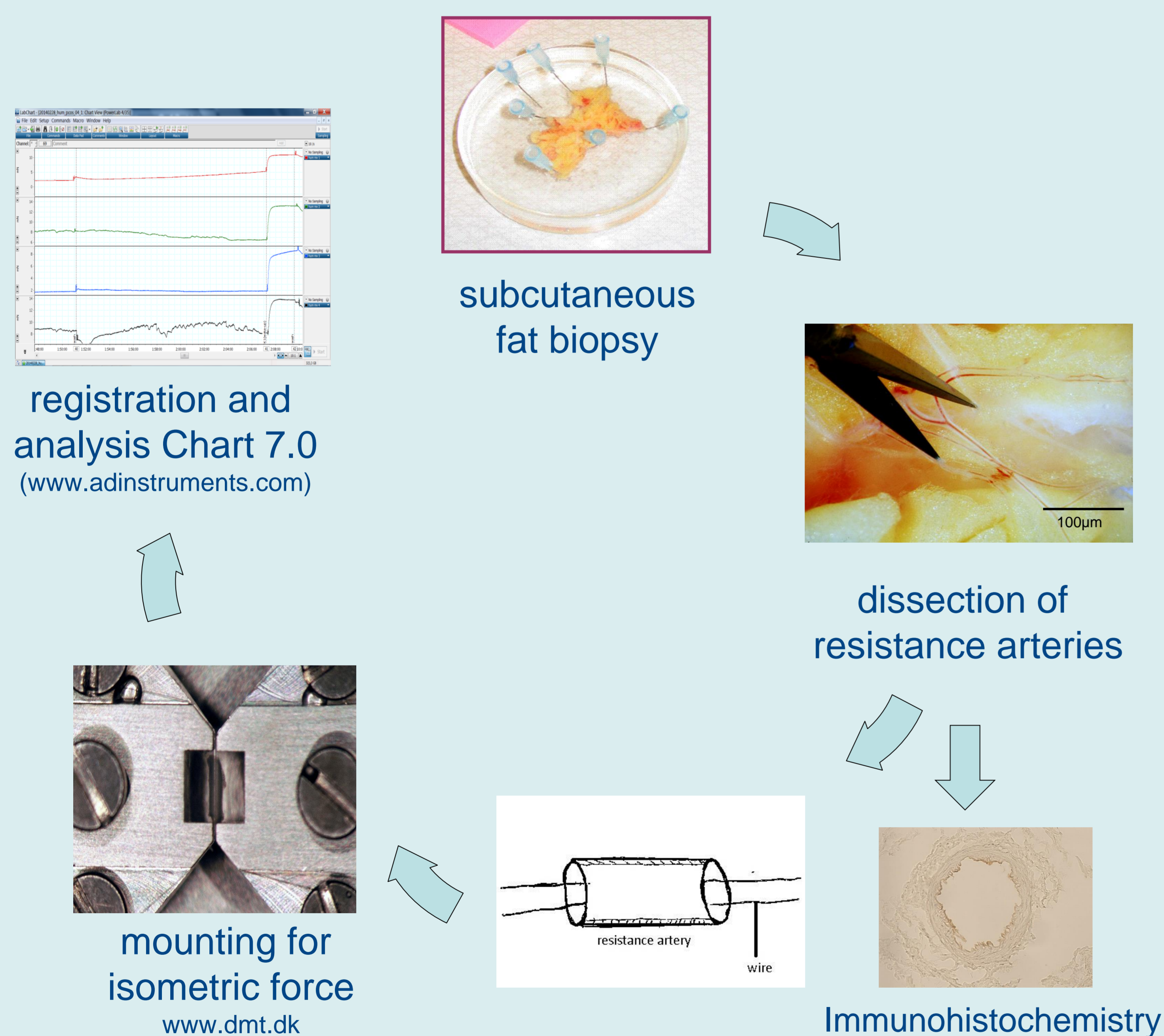
## INTRODUCTION

Although BTP has been implicated in the high cardiovascular mortality in end stage renal disease (ESRD), its biological role in the healthy and diseased milieu is not evident. BTP contributes to vascular maintenance via effects on vasodilatation, platelet aggregation and inflammation. Whether changes in BTP levels affect resistance vasculature maintenance in ESRD is not known.

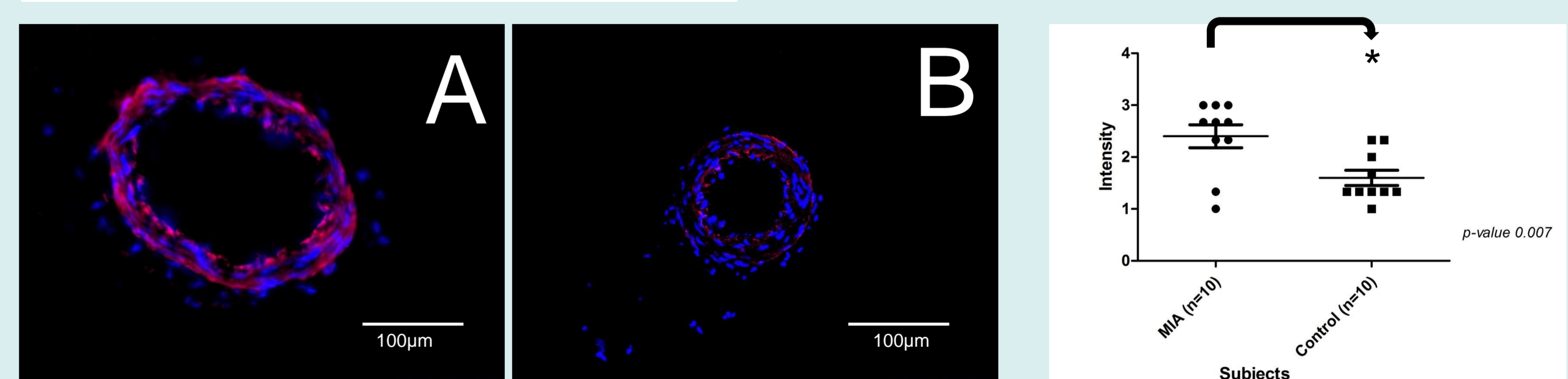
## RESULTS

- ▶ There was a significant correlation between BTP levels and max dilatation to BK at max concentration (i.e. 3  $\mu\text{mol/L}$ ,  $n=36$ ,  $p < 0.02$ ) but not to Ach (i.e 3  $\mu\text{mol/L}$ ,  $n=34$ ) and SNP (100  $\mu\text{mol/L}$ ,  $n=14$ ).
- ▶ Comparable correlations were observed between the levels of BTP and EC50
- ▶ The expression of BTP was higher in uremic than control arteries.

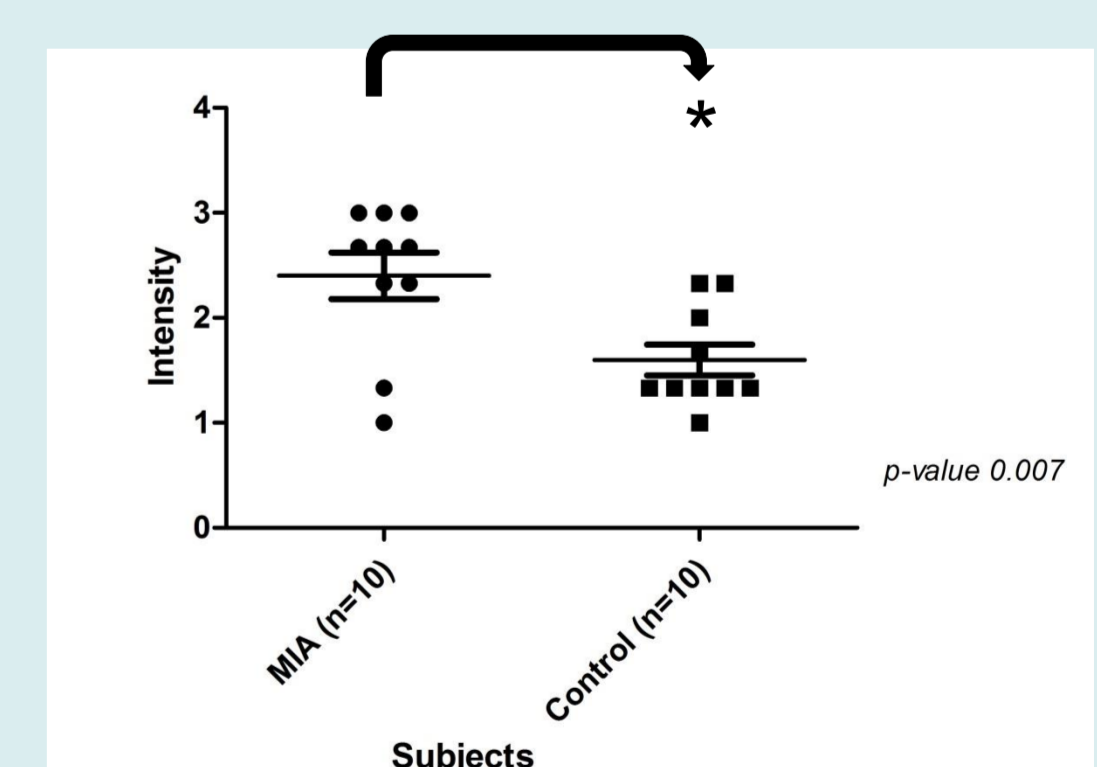
## METHODS



**Figure 1: Co relation curves for BTP levels and dilatation to BK (Panel A), ACh (Panel B) and SNP (Panel C) in small arteries from ESRD patients.**



**Figure 2: Immunohistochemistry of BTP arteries from ESRD patients (A), and healthy controls (B).**



**Figure 3: Arteries from ESRD patients showed more BTP expression than controls.**

**Abbrev.** ACh, acetylcholine; BK, bradykinin; BTP, beta-trace protein; ESRD, end stage renal disease  
SNP, Sodium nitroprusside;

Techniques and experimental approaches are used in other projects as well (PCOS, kidney disease)  
Proposals for collaborative experimental projects are welcomed

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