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RESEARCH AREA

Sports adaptation of different types of blood vessels and their gender differences in an animal model. Investigation of the hemodynamic effects of vitamin D deficiency and supplementation on adaptation of different types of isolated blood vessels and network adaptation. Gender differences in adaptation to vitamin D deficiency. Vascular effects of testosterone deficiency and hypertension on adaptation of resistance coronary arterioles in animal model. Correlation between vitamin D status and Polycystic Ovary Syndrome. Effect of vitamin D deficiency and supplementation on reproductive functions.

TECHNIQUES AVAILABLE IN THE LAB

- In vitro pressure-arteriography
- Wire-myography
- Histology and immunhistology studies
- Network analysis of the left anterior descending coronary arteries
- Statistical analysis
- Database analyses

SELECTED PUBLICATIONS

Dalloul, H., Hainzl, T., Monori-Kiss, A., Hadjadj, L., Nádas, G.L., Török, M., Várbíró, Sz. (2022) Vitamin D deficiency and supplementation altered the network of the coronary arteries in a rodent model – *in situ* video microscopic technique. *Nutrients* 14: 2041.

Várbíró, Sz., Takács, I., Tűú, L., Nas, K., Sziva, R.E., Hetthéssy, J.R., Török, M. (2022) Effects of Vitamin D on Fertility, Pregnancy and Polycystic Ovary Syndrome – A Review. *Nutrients* 14: 1649.

Vezér, M., Demeter, Á., Szekeres, M., Jósvai, A., Bányai, B., Oláh, A., Balogh, F., Horváth, E.M., Radovits, T., Merkely, B., Ács, N., Nádas, G.L., Török, M., Várbíró, Sz. (2022) Sex differences in rat renal arterial responses following exercise training. *American Journal of Physiology: Heart and Circulatory Physiology* 322: H310-H318.

Merkely, P., Bakos, M., Bányai, B., Monori-Kiss, A., Horváth, E.M., Bognár, J., Benkő, R., Oláh, A., Radovits, T., Merkely, B., Ács, N., Nádas, G.L., Török, M., Várbíró, Sz. (2021) Sex differences in exercise-training-related functional and morphological adaptation of rat gracilis muscle arterioles. *Frontiers in Physiology* 12: 685664.

Török, M., Merkely, P., Monori-Kiss, A., Horváth, E.M., Sziva, R.E., Péterffy, B., Jósvai, A., Sayour, A.A., Oláh, A., Radovits, T., Merkely, B., Nándor, Á., Nádas, L.Gy., Várbíró, Sz. (2021) Network analysis of the left anterior descending coronary arteries in swim-trained rats by an *in situ* video-microscopic technique. *Biology of Sex Differences* 12: 17.

Jósvai, A., Török, M., Mátrai, M., Hetthéssy, J., Monori-Kiss, A., Makk, J., Székács, B., Nádas, L.Gy., Várbíró, Sz. (2020) Effects of Testosterone Deficiency and Angiotensin II-Induced Hypertension on the Biomechanics of Intramural Coronary Arteries. *Journal of Sexual Medicine*. 17: 2322-2330.