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Título	Progression of micturition dysfunction associated with the development of heart failure in rats: Model of overactive bladder
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Resumo	Heart failure (HF) has a strong association with the development of lower urinary tract symptoms, especially overactive bladder (OAB); although this condition remains poorly investigated. In this study, we assess the aortocaval fistula (ACF) model as a novel experimental model of micturition dysfunction, associated with HF, focused on the molecular and functional studies to evaluate the autonomic nervous system and urinary bladder remodeling. Male rats were submitted to ACF for HF induction. Echocardiography, cystometric, histomorphometry and molecular analysis, as well as concentration-response curves to carbachol and ATP and frequency-response curves to electrical field stimulation (EFS) were evaluated in Sham and HF (4- and 12-weeks endpoint) groups. Compared to SHAM, HF groups exhibited progressive increases in the left ventricle (LV) mass and fractional shortening which indicates cardiac dysfunction, although HF was characterized only after 12 weeks by the reduced ejection fraction. For micturition function, HF groups presented increased non-voiding contractions (NVC) and decreased bladder capacity; however, when comparing HF groups, these urinary parameters were significantly impaired over the weeks (12-weeks). The contractile responses induced by CCh, ATP and EFS were greater in detrusor muscle (DSM) from HF rats. mRNA expression for muscarinic receptors (M2 and M3) was higher in DSM only after 12 weeks of ACF, in addition to MMP9 and TGF-beta. Histomorphometric revealed increased urothelium thickness in both HF groups, whereas



	DSM thickness occurred only after 12 weeks. Thus, the ACF model induced cardiac dysfunction with progressive micturition dysfunction over the weeks, characterized by increased DSM contractile mechanisms as well as extracellular matrix remodeling in the urinary bladder, representing a useful tool to evaluate the OAB associated with HF.
Fomento	