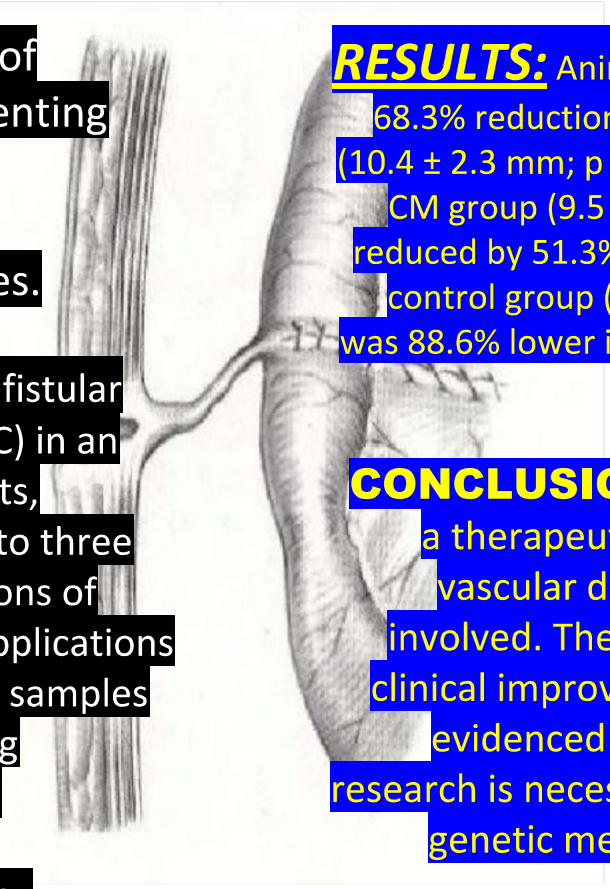
ENTEROCUTANEOUS FISTULA (ECF) AND ECONOMIC BURDEN. PRELIMINARY DATA FROM A HEOR MODEL OF A LABORATORY(LAB) EXPERIMENT PLUS POTENTIAL COST AVOIDANCE

Code: CO97

ELIO TANAKA, MD1, Vitor Penteado Figueiredo Pagotto, MD2, Mariana Canevari de Maio, MD3, Dimas Andre Milcheski, MD4, Rolf Gemperli, MD5, Luis Claudio Rodrigues Marrochi, RESEARCHER6.

OBJECTIVES: To analyze the economic burden of enterocutaneous fistula (ECF) treatment, presenting preliminary data from a Health Economics and Outcomes Research (HEOR) model based on a laboratory experiment with favorable outcomes.

METHODS: This study evaluated the effects of perifistular application of adipose tissue-derived stem cells (ASC) in an experimental ECF model. Twenty-six male Wistar rats, weighing between 300 g and 450 g, were divided into three groups: control (C) (n = 8), two perifistular applications of culture medium (CM) (n = 9), and two perifistular applications of 1 x 10^6 allogeneic ASC each (ASC) (n = 9). Tissue samples were subjected to histopathological evaluation using hematoxylin and eosin staining for blood vessel and inflammatory cell counts, as well as assessments of inflammation, tissue atrophy, and gene expression by qRT-PCR.



RESULTS: Animals treated with ASC (3.3 ± 0.6 mm) exhibited a 68.3% reduction in ECF diameter compared to the control group (10.4 ± 2.3 mm; p = 0.002) and a 65.3% reduction compared to the CM group (9.5 ± 4.1 mm; p = 0.011). CD68 gene expression was reduced by 51.3% in the ASC group (0.58 ± 0.65) compared to the control group (1.19 ± 0.78) (p = 0.012), while MMP9 expression was 88.6% lower in the ASC group (0.19 ± 0.18) than in the control group (1.66 ± 1.50) (p = 0.009).

CONCLUSIONS: The study supports the use of ASC as a therapeutic option for ECF. The observed increase in vascular density may indicate one of the mechanisms involved. These findings suggest the potential for earlier clinical improvements and better economic outcomes, as evidenced by ongoing cost avoidance studies. Further research is necessary to fully understand the molecular and genetic mechanisms involved, as well as to expand on HEOR analysis .

AL AUDIT, TNK MEDICAL AUDIT INSTITUTION, CURITIBA, Brazil, 2RESEARCH, TNK, CURITIBA, Brazil, 3TNK, CURITIBA, Brazil, 4USP, SÃO PAULO , BRAZIL, Brazil, 5RESEARCH, USP, SÃO PAULO , BRAZIL, Brazil, 6RESEARCH, TNK MEDICAL AUDIT INSTITUTION, CURITIBA , PARANÁ, Brazil.