

EFFECT OF CANCER CACHEXIA ON VASCULAR ENDOTHELIAL GLYCOCALYX

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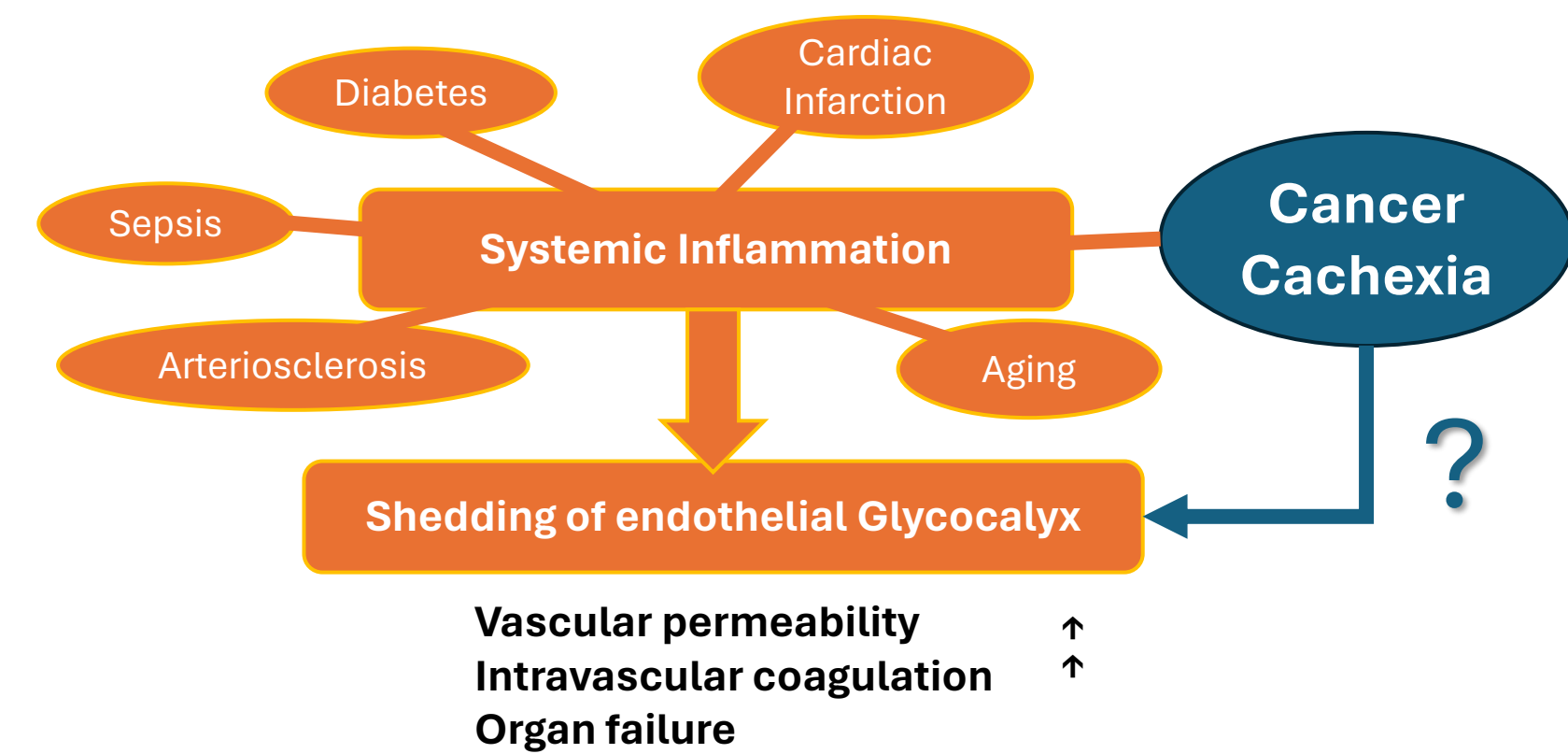
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Introduction

- ✓ Cancer cachexia is a multifactorial syndrome characterized by weight loss, anorexia, and loss of skeletal muscle with or without loss of fat mass.¹⁾
- ✓ Cancer cachexia is associated with systemic inflammation.
- ✓ The endothelial glycocalyx (eGCX) is a gel-like layer of glycoprotein that covers the luminal surface of the capillary endothelium.²⁾
- ✓ The eGCX plays an important role in maintaining intravascular coagulation and vascular permeability.
- ✓ Sepsis and other diseases which lead to systemic inflammation cause the shedding of the eGCX.

Hypothesis: cancer cachexia causes the shedding of eGCX.

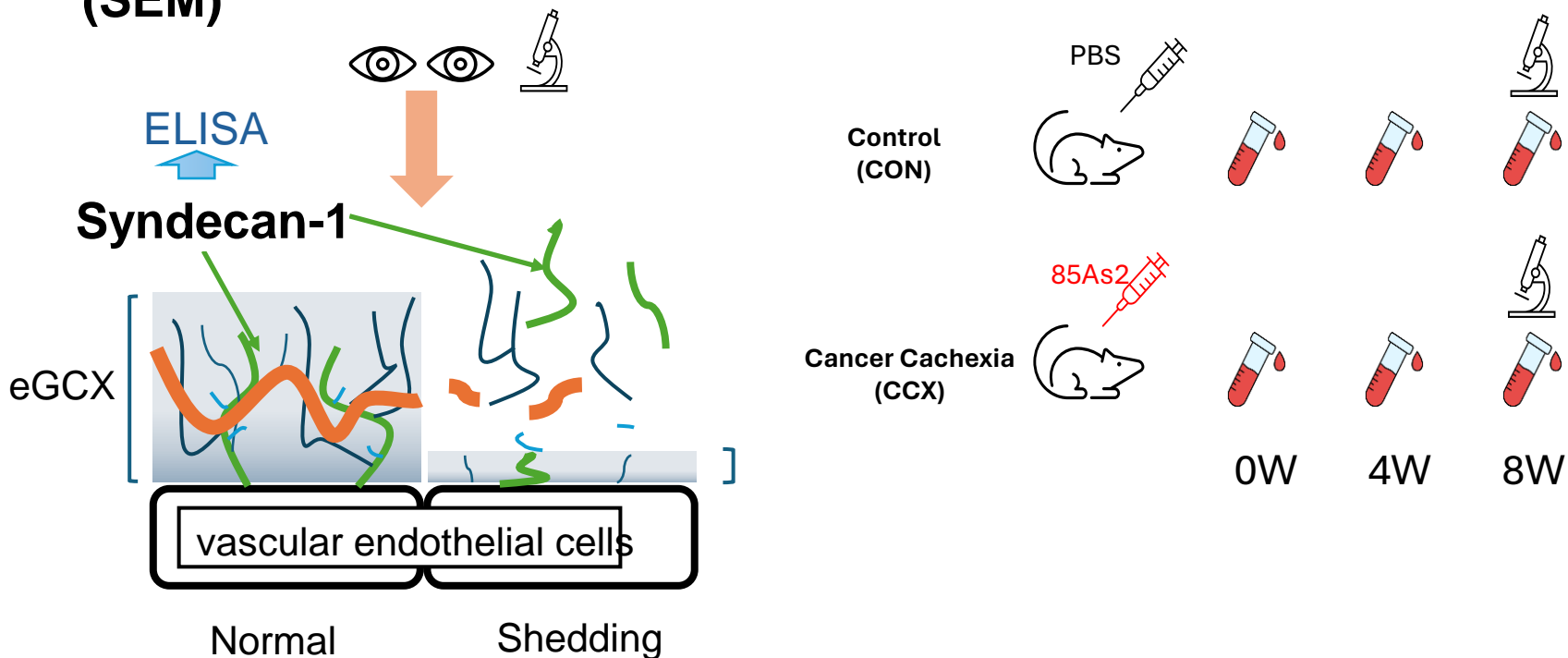


Methods

Mice: BALB/cAJcl-nu/nu (CLEA Japan, Inc., Tokyo, Japan)

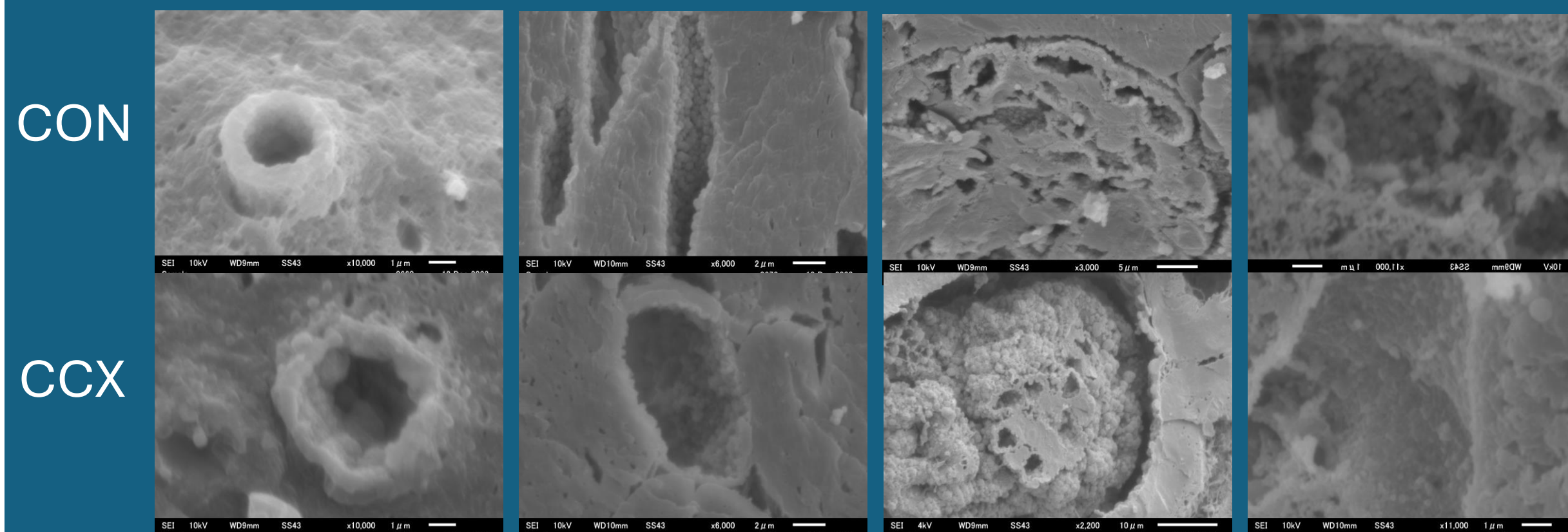
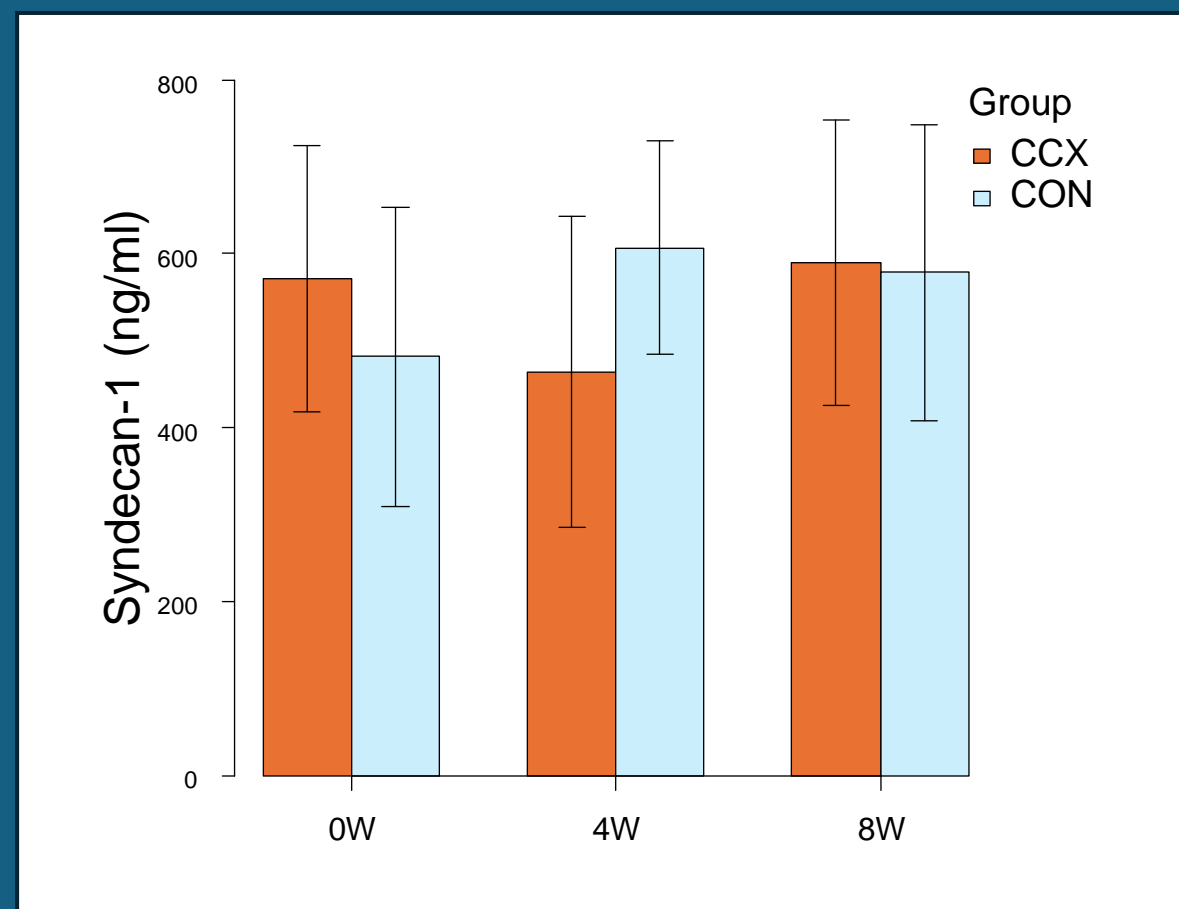
Cancer cells: 85As2 (established from human gastric cancer cells)³⁾

Scanning Electron Microscope⁴⁾ (SEM)



The shedding of the eGCX was not observed in cancer cachexia group mice (85As2 mouse model).

Syndecan-1 levels were not elevated in the cancer cachexia (CCX) group compared to the control (CON) group



The eGCX did not show shedding in the CCX group as observed using scanning electron microscopy (SEM).

Discussion

- ✓ Cancer cachexia is caused by various mediators from the cancer cell and host tissues.²⁾
- ✓ Previous studies have shown an association between inflammatory cytokine, including interleukin-6 (IL-6) and TNF α , and the degradation of the eGCX.²⁾
- ✓ However, the cancer cachexia mouse model using 85As2 cell line elevates leukemic inhibitory factor (LIF) but does not elevate interleukin-6 (IL-6) or tumor necrotic factor-alpha (TNF α).⁵⁾⁶⁾
- ✓ Therefore, the mouse model used in this study may not have been a suitable cancer cachexia model with systemic inflammation.

As a next step, we are working on how eGCX changes in a mouse model of cancer cachexia that produces systemic inflammation.

References

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More information

