**Background and Objectives**

- Adipocytes are the main cellular component of adipose tissue (Fig. 1) [1].
- They are crucial for energy storage and endocrine activity of adipose tissue by releasing multiple bioactive substances, known as adipokines; e.g., leptin, adiponectin, resistin, chemerin [1].
- Previous studies have shown that chemerin is associated with an unfavorable inflammatory and metabolic profile [2, 3].
- Only few small and selected clinical studies focused on the associations between chemerin and mortality [4-7].
- Therefore, this study aimed to analyze the association between plasma chemerin concentrations and mortality in a well-characterized, large population-based study.

**Study Design**

**Study of Health in Pomerania (Fig. 2): SHIP-START-1 (N = 2,993) + SHIP-TREND-0 (N = 4,111)**

- Circulating chemerin concentrations were determined using enzyme-linked immunosorbent assay (ELISA) technique.
- The sex-specific distribution of chemerin concentration was visualized using histograms and boxplots.
- Vital status was acquired from the time of study enrollment until April 4th, 2019; causes of death were coded according to the International Classification of Diseases, 10th revision (ICD-10).
- Kaplan-Meier survival analyses and multivariable Cox proportional regression models were used to analyze the association between chemerin and mortality.

**Results and Discussion**

- Analyses revealed higher plasma chemerin concentrations in women compared to men (Fig. 3).
- Plasma chemerin concentration increases with age and waist circumference (Fig. 3).
- Kaplan-Meier survival curves demonstrate that subjects with high chemerin have a lower survival function compared to those having lower chemerin concentrations (Fig. 4).
- Adjusted analyses using multivariable Cox proportional hazard models have shown that each increase of chemerin per 30 ng/mL was associated with a 23% higher risk of all-cause mortality.
- The effect estimates detected for cancer (hazard ratio 1.33) were greater than those for CVD (hazard ratio 1.23) as cause of death.

**Conclusion**

- Chemerin concentrations are higher in women than in men and increase with age and waist circumference.
- A high plasma chemerin concentration is associated with an increased risk of mortality in the general population.
- Cause-specific analyses have indicated that the association between chemerin and mortality is mainly attributed to cancer related death.
- However, effects between chemerin and cardiovascular mortality were also observed.

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**References**