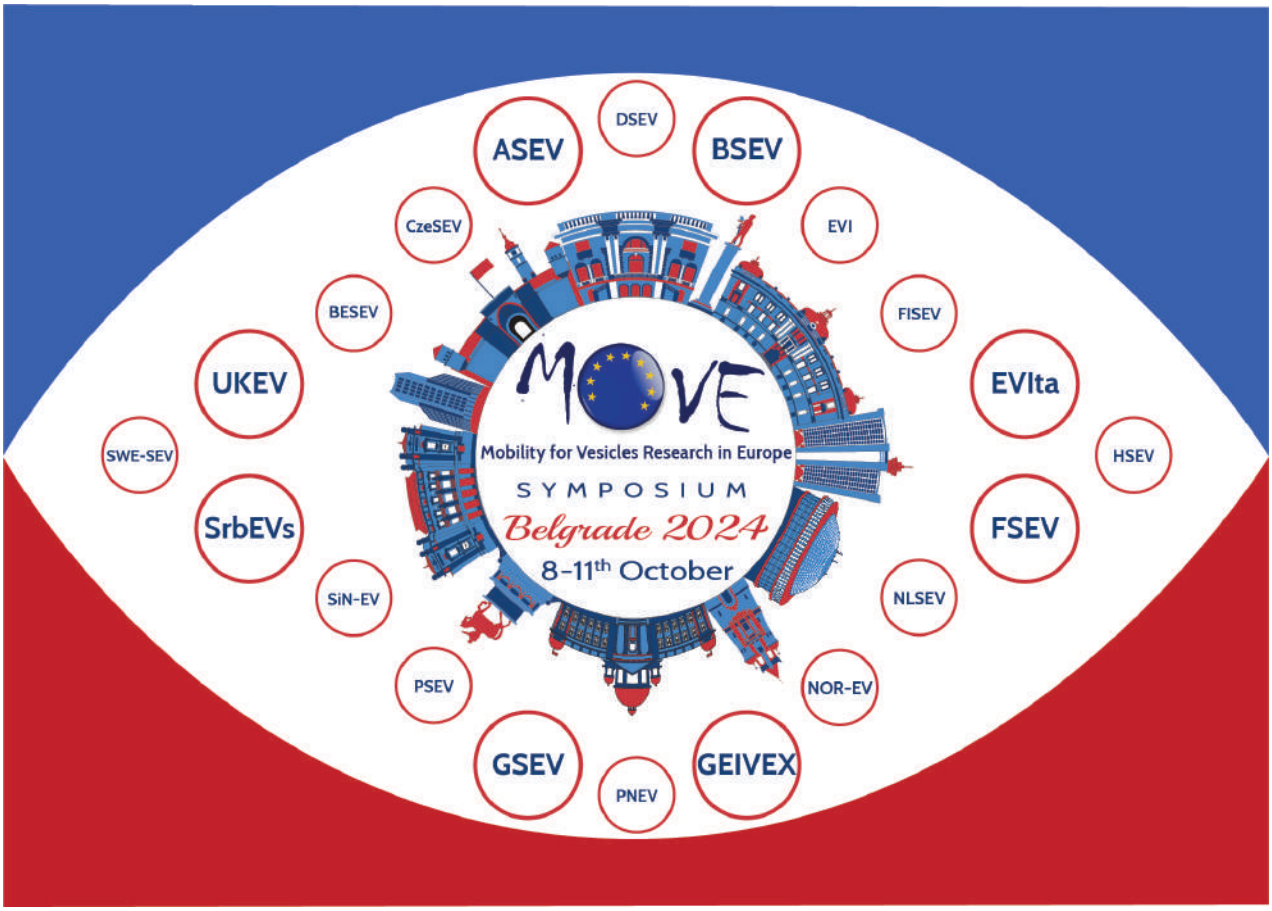
2nd MOVE Symposium



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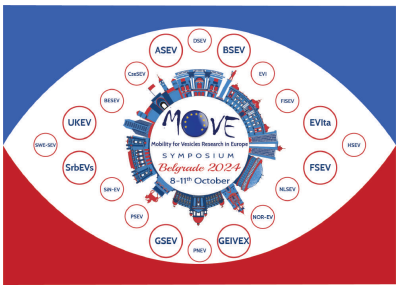

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8-11 October 2024, Belgrade, Serbia

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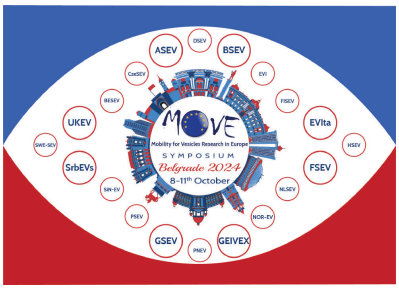

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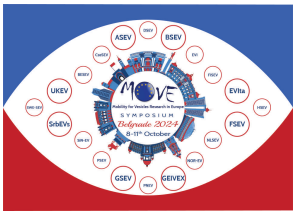

P-HD-25

Extracellular vesicles from saliva of Rheumatoid Arthritis patients have a distinct profile compared to healthy controls

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Introduction: Rheumatoid arthritis (RA) is a systemic inflammatory disease that not only affects the joints but can also cause significant disability and impacts overall health, including oral health. Clinical studies have demonstrated that patients with RA often have worse oral health compared to healthy individuals. Saliva has been recognized as a valuable diagnostic tool for detecting both local and systemic diseases, including RA. However, using whole saliva presents several challenges, such as variability in composition and potential contamination. Therefore, salivary extracellular vesicles (EVs) have been investigated to overcome these barriers. The aim of this study was to isolate and characterize salivary EVs from patients with RA in comparison to healthy controls.

Methods: Salivary EVs were isolated from saliva pools of healthy volunteers and patients with RA by differential centrifugation, followed by characterization using SDS-PAGE, dot-blot, Western blot and NTA.

Results: Analysis of the number, size, and zeta potential showed that the number and size of RA salivary EVs were greater than those isolated from healthy donors. Additionally, the zeta potential of RA salivary EVs was negative, unlike the zeta potential of salivary vesicles isolated from healthy volunteers. Within the overall similarity in protein composition and CD9- and CD63-immunoreactivity in the examined groups, a difference was observed in the presence of CD81, which was found only in RA salivary EVs.

Conclusion: The obtained results indicate distinct differences between EVs isolated from patients with RA and healthy donors. It can be assumed that the observed differences may be a consequence of the disease mechanism, its duration, or therapy. Further studies will determine the diagnostic potential of these differences and possibly lead to novel diagnostic or monitoring assays for RA.

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