

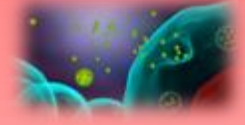


Stroke and TIA

Extracellular Vesicles (EV)

- Stroke is a leading cause of death and disability worldwide¹.
- TIA patients, experience short-lasting stroke like symptoms and are **4 TIMES** more likely to suffer a stroke within 12 months.²
- Identifying which patients will go on to suffer a stroke is a challenge for healthcare professionals.

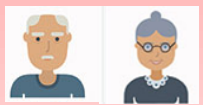
- EV are nanosized particles, produced by all cells.
- Often increased in disease and previously associated with cardiovascular pathologies^{3,4}.
- Endothelial derived EV are produced following endothelial damage and express markers of parent cell activation.



Study Objective Determine if Endothelial EV are a good predictive marker of stroke

Recruitment Strategy & Methods

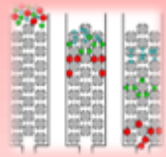
- Participants were recruited for the PREDICT-EV study from TIA clinic at Prince Charles Hospital, Merthyr, UK.
 - 40 Healthy Controls and 40 TIA Mimics were compared with 210 TIA patients.



Cohort Characteristics Gathered



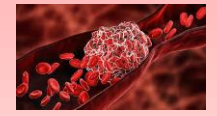
Blood Sample Taken



EV Isolated

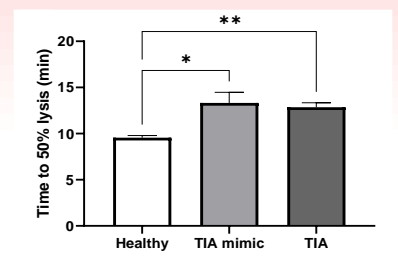
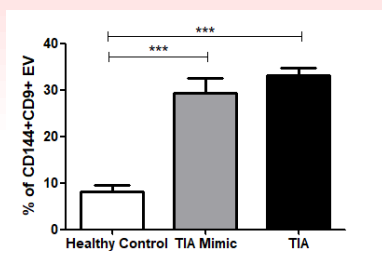
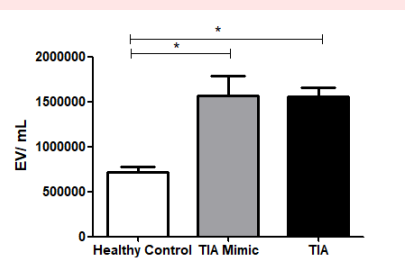


EV Characterised



Thrombotic Potential?

Preliminary Data



- Increased EV, specifically Endothelial derived are seen in TIA mimic and TIA patients. When TIA mimic and TIA EV are present blood clots take longer to lyse.

Conclusion

Endothelial EV have been associated with increased thrombotic risk. Patients who have TIA mimic have elevated levels of endothelial EV, similarly to that seen in TIA patients. Therefore, both TIA and TIA mimic patients are likely to be associated with increased stroke risk.

The Bigger Picture

Endothelial EV may be the cause or consequence of the initial TIA event; however, they could potentially be used as a biomarker post TIA to determine risk of future stroke. This is because they can change how blood clots. Further work is required to characterise these EV to determine how they work.

Acknowledgements

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References

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