**ABSTRACT**

Determining the postmortem interval PMI or time of death is a critical step in forensic investigations.Accurate estimation of the PMI is an important task for a forensic examiner.Recent developments in biochemical technologies have started to identify biomarkers in different biological fluids such as blood, urine for PMI estimation. Researches focusing on the use of blood in PMI estimation suggest that the femoral vein blood must be collected for measuring biochemical components. Forensic investigations are hurtling toward the introduction of Artificial Intelligence AI, an intelligence exhibited by machines that are trained to learn and solve problems.The present project outlines a concept of a device that can be used in the prediction of the PMI through providing the profile of different metabolites in blood such as Lactate dehydrogenase LDH, Aspartate aminotransferase AST, triglycerides and cholesterols. In addition to the measurement of blood pH. Use of these biochemical markers could be promising tools in forensic death investigations.