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ABSTRACT	This study is concerned with the estimation of the Time since death (TSD) using light microscopically detectable postmortem cellular changes of Purkinje cells of the cerebellum and proximal convoluted tubular (PCT) cells of the of the kidney. The objectives of this study were to identify postmortem changes of Purkinje cells of the cerebellum and the PCT cells of the kidney, to determine the influence of exogenous and endogenous variables on their decomposition and to correlate the postmortem changes observed with the TSD, making allowance for the variables. This study also attempts to find out whether the TSD estimates could be improved by combining statistically the decompositional changes of Purkinje cells of the cerebellum and the decompositional changes of the PCT cells of the kidney. The postmortem changes observed in the Purkinje cells and PCT cells were pyknosis and karyolysis, while detachment of PCT cells from the basement membrane was also noted in the kidney. It was seen that refrigeration had a predictable effect on the decomposition of Purkinje cells and mildly congested kidneys but had no significant effect on the decomposition of macroscopically normal kidneys. Though a significant difference was observed in the rate of decomposition of Purkinje cells in cases over and below the age of 60 yrs., age has no predictable effect on the decomposition of cells of the PCT. It was noted that granular contracted kidneys decomposed at a significantly slower rate than macroscopically normal kidneys. While mildly congested kidneys other than granular contracted kidneys and macroscopically normal kidneys decomposed at a comparable rate, when not refrigerated. The decompositional changes of Purkinje cells of the cerebellum and PCT cells of the kidney independentlv correlate significantly with the TSD, but provide a dependable means of estimating TSD only within a narrow range of TSD, in a limited number of cases of non-refrigerated bodies, less than 60 yrs. of age, where the cerebellum is macroscopically normal and the kidneys are macroscopically normal or mildly congested. The decompositional changes of the Purkinje cells of the cerebellum and PCT cells of the kidney in combination, improves the TSD estimates in a greater number of cases and in a wider range of TSD, provided that the bodies are non-refrigerated, are under 60 yrs. of age, the cerebellum is macroscopically normal and the kidneys are macroscopically normal or mildly congested.