G63 Homicidal Deaths in the Western Suburbs of Paris: A 15-Year-Study With Special Focus on Survival Time

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After attending this presentation, attendees will understand homicide trends in an area around Paris and the value of Injury Severity Score (ISS) for the estimation of survival time.

This presentation will impact the forensic science community by helping forensic pathologists in homicide case investigations when questions about victim's survival time are raised.

The goal of this study was to analyze the homicide pattern in the western suburbs of Paris and its evolution between 1994 and 2008. ISS was also assessed to see if it was correlated with the survival time of homicide victims.

All autopsy reports regarding homicides from January 1, 1994 to December 31, 2008 were retrospectively reviewed. All autopsies were performed in the Department of Forensic Medicine and Pathology of Garches. Out of 4,842 autopsy cases reviewed, 511 homicide cases were selected. The following data were recorded: assailants' and victims' characteristics, crime scene location, homicide motive, cause of death, postmortem toxicological results, ISS, and estimated survival time.

Homicide rate steadily declined over the period at the exception of the number of homicide-suicide per year which remained constant. Homicide victims remained unidentified after medico-legal investigations in 2% of the cases. Child and elder homicide cases

represented respectively 10.7% and 8.2% of the cases. Offenders were male in 88% of the cases. Male and female assailants showed distinct homicide patterns: females were involved more frequently in familial quarrel and child abuse. They never killed a stranger and committed homicide exclusively in a private place with a predominance of sharp weapons. Males in contrast assaulted almost equally a stranger or an acquaintance, often in a public place with a predominance of firearm. The victim knew the assailant(s) in 57% of the cases. Homicides mostly took place at the residence of the assailant or the victim. Homicide motive was clearly determined in 71% of the cases. Argument was the most common motive in 44% of the cases. Sexual assault was rarely found (ten cases). Gunshot wounds were the most common cause of death (37%), followed by stab wounds (27%), blunt trauma (19%) and asphyxia (13%). A decrease of gunshot wounds as a cause of death was found over the studied period. Alcohol was the most common toxic detected in blood victim, in 48.5% of the cases when toxicological results were available. Blood alcohol concentration ranged from 1 to
500 mg/dL with a mean value of 150 mg/dL. Survival time was determined in 162 cases and ranged from 0 minute to 25 days. The mean ISS was different according to the cause of death: 3.4 for deaths by asphyxia, 38.6 for deaths by stab wounds, 39.6 for deaths by blunt trauma and 60 for deaths by gunshot wounds. ISS and survival time showed a significant correlation ($r=-0.56$; $p<0.05$) only for short survival time (less than three hours) and after exclusion of deaths by asphyxia (n=58). Correlation was weaker when there was a long time of resuscitation.

In conclusion, this autopsy series research pointed out that homicide pattern strongly differed according to the sex of the victim and of the assailant. ISS could be used to help in estimating the victim's survival time, taking into account the compounding factor of resuscitation. **Homicide, ISS, Survival Time**

 ** Presenting Author*