Sudden death structure and trend

【Causes】Using the available death data with multiple causes and its time interval to death, sudden death is defined as deaths with any of the time interval to death of any cause mentioned is within 1 day (24 hours), based on the existing researches on the sudden death in Japan.

【Methods】Since the original data on the time interval is written by doctors by various way, the description was normalized to numerical value with day as unit. The maximum time interval of all causes mentioned in a ICD or II is equal or less than 1 was selected as sudden death. The death with no time interval information (less than 2% of the cases) or unknown time interval are not the sudden death but included in the denominator.

【Results】The most (56% to 60%) sudden death occurred with the underlying cause of I Diseases of the circulatory system, followed by S/T external causes (18% to 24%) (Fig.5). Small but steadily, the J (Respiratory) and R(Other) causes are increasing. Except for 2011 when the Great East Japan Earthquake occurred, the proportion of sudden death is decreasing since 2005, for both including and excluding external causes, and age adjusted or not (Fig.6). Women tend to die less suddenly except for old age from 70 to 94 years and middle aged men (20 to 54 years old) face higher risk of sudden death which is not caused by the external causes (Fig.7). Infant 0-4 proportion is high. Sudden death proportion varies by prefecture (Fig.8). Although there is no correlation between the proportion of sudden death excluding external causes and that of external causes, the prefecture rankings are similar between 2008 to 2016, the prefectures with high proportion of sudden death in 2008 remain to be so in 2016.

【Conclusion】Sudden deaths can be more easily prevented and effective measures should be taken according to the realities revealed by the data. In addition to the S/T(external causes) and I/SDS(Sudden Infant Death Syndrome) with which various prevention measures are underway, further efforts to reduce the sudden death caused by J(Circulatory) is necessary. The sudden death of middle age male and old age female should be properly identified by more detailed causes. Increasing sudden death caused by J(Respiratory) and old women suggests the increased death by dysphagia/choking caused by dementia but should beascertained by detailed causes. The persistent level of sudden death by prefecture might be due to the age-structure but the differential analysis might find way for better interventions. The declining trend of sudden death is a good sign and it should be continued.

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