

Title: COGNITIVE AND NEUROBEHAVIORAL IMPAIRMENTS IN ROAD-CRASH INJURED PATIENTS WITH AND WITHOUT TBI : AN EVALUATION OF THE ESPARR COHORT ONE YEAR AFTER THE ACCIDENT.

Name HOURS  
First Name Martine  
Institution INRETS  
Department UMRESTTE  
Address 25 avenue François Mitterrand  
Zip code 69500  
City Bron  
Country France  
Phone +33 4 72 14 25 22  
Fax +33 4 72 14 25 20  
Email martine.hours@inrets.fr

Abstract Title : Cognitive and neurobehavioral impairments in road-crash injured patients with and without TBI : an evaluation of the ESPARR cohort one year after the accident

Author's Name

Co -Author 1 Charnay P. <sup>(1)</sup>  
Co -Author 2 Bar J.Y. <sup>(1)</sup>  
Co -Author 3 Nash S. <sup>(1)</sup>  
Co -Author 4 Bernard M. <sup>(1)</sup>  
Co -Author 5 Boisson D. <sup>(2)</sup>  
Co -Author 6 Mazaux JM. <sup>(3)</sup>

Affiliation( Hospital, Dept., City, Country)  
<sup>(1)</sup> UMRESTTE/INRETS-UCBL LYON1-InVS, Bron, 69, France  
<sup>(2)</sup> Hôpital Henry Gabrielle-HCL, St Genis-Laval, 69, France  
<sup>(3)</sup> Hôpital Tastet Girard, CHU Pellegrin, Bordeaux, 33, France

**Introduction:** In ESPARR's study, we followed up a road accident victim's cohort in order to assess the medical, social and family consequences of a road accident on the victims and their family. All the members of this cohort were included while they were given care of in the Rhone department's hospitals.

**Objectives:** This study aims to describe the cognitive and neurobehavioral impairments that road accident victims can suffer from, according to the gravity of the reported head injury.

**Method:** The ESPARR Cohort study included (road crash) injured subjects while they were taken care of in the Rhone area's hospitals, between 2004, october 1<sup>st</sup> and 2005, december 31<sup>th</sup>. The neuropsychological assessment realised one year after the accident concerned specific people: first, they had to be 15 years old or more at the time of their accident. Secondly they had to be considered as severely wounded (M.AIS 3+) or have at least an AIS 2 head lesion score (corresponding to a TBI with loss of consciousness). Assessment scales and questionnaires were administrated by neuropsychologists. We chose the Revised Neurobehavioral Rating Scale (NRS-R), which was validated in French by Vannier, Mazaux and coll.

**Results:** 281 of 401 subjects (71%) accepted the follow-up one year after the accident: 115 people had a M-AIS $\geq$ 3 without TBI, 46 a serious TBI, and 120 a moderate TBI. The mean age is 36.6 years ( $\pm$ 16.7). The three groups are similar in terms of socioeconomic categories or familial status. Three subjects out of 4 are men. As expected, subjects with serious TBI suffered significantly more frequently from attention and memory impairments, anxiety, difficulties in oral expression, mental fatigability, difficulties in mental flexibility, lability of mood and emotional withdrawal. Moderate TBI were slightly more numerous to present mental fatigability and decreased motivation but this was not significant. On the other hand, more severe injured people without TBI had a blunted affect but the difference with moderate TBI was not significant.

**Conclusions:** the results of the study confirm the cognitive and neurobehavioral impact of severe traumatic brain injury one year after the accident. We did not find statistical differences between moderate TBI and serious injured people without TBI.