ANXIETY AND ACUTE LEUKEMIA AMONG CHILDREN AND ADOLESCNETS : PROSPECTIVE STUDY ABOUT 20 CASES (TUNISIA)

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Background

The occurence of acute leukemia (AL) during childhood causes a profound and lasting upheaval , wich can contribute in the emergence of psychological difficulties such as anxiety.

Objectives

The objective of our study was to evaluate the level of anxiety among children and adolescents with acute leukemia, at the beginning, during and at the end of the medical care.

Materials and methods

Our study is prospective and conducted among 20 children and adolescents admitted to the hematology department of UHC Hedi Chaker of Sfax (Tunisia), during a period of 2 years (January 2015 – December 2016). During hospitalizations, the patients undergo an intensive protocol of chemoytherapy: induction then consolidation then maintenance. Evaluation of the effectiveness of this protocol and its side effects is done using invasive explorations (bone marrow biopsies, lumbar punctures and blood samples). Our study has taken place over 3 time-points, (T0) being the time of the first admission, (T1) halfway through the hematology treatment protocol (6 to 8 months after the start of the treatment) and (T2) right after the end of the therapeutic protocol (18 to 24 months after the start of the treatement). In order to evaluate the anxiety, we have proceeded to apply the Spielberger STAI (the state-trait anxiety inventory).

Results

- 1- Socio-demographic characteristics of the study sample :**
- The average age of our sample is **9.5 +/- 3.07 (6 – 18)**.
 - There is a **male predominance**: Sex-ratio = 1.85.
 - The majority of our patients are **urban** = 65% of cases.
 - The socio-economic level is mainly **medium** : 75% of cases.
 - The majority of children are the **youngest**: 55% of the cases.
 - All children and adolescents are **in school**.

- 2- Assessment of anxiety (trait - state) in T0, T1 and T2 :**
- The percentages of children with positive STAI scores in T0, T1 and T2 are shown in Figure 1.

Figure 1 : Anxiety assessment by STAI in T0, T1 and T2.

- 3- Distribution of the study sample according to the anxiety level (trait-state) in T0 in T1 and T2 :**
- **State Anxiety :**

Figure 2 : Sample distribution according to the anxiety level at the state anxiety scale in T0, T1 and T2.

Figure 3: Sample distribution according to the anxiety level at the trait anxiety scale in T0, T1 and T2.

Discussion

Our study found a high percentage of positive STAI scores from the beginning of treatment (T0), with 45% of cases at the state anxiety scale and 30% of cases at the trait anxiety scale. These numbers tend to increase during the first year of care (T1) to reach 75% of cases at the state anxiety scale and 70% of cases at the trait anxiety scale. High and very high levels of anxiety were objectified in 45% of the cases. This percentage decreases during the second year of treatment (T2) to become low, lower than the initial percentage (T0), and estimated at 10% of cases at the state anxiety scale. Literature data are rare and heterogeneous [1] . Myers et al. [2] in their prospective study, objective a higher anxiety frequency 1 month after management (25% of cases). This percentage decreases to reach the control 6 months after the diagnostic announcement (17% of cases) and at the end of the first year of treatment (14% of cases).These data join our results in T0 and T2. According to this study significantly elevated anxiety scores will be predictive of the subsequent onset of psychopathological disorders during the first year and even after cessation of care. This finding is well illustrated by recent studies showing the presence of high scores of anxiety, depression and impaired quality of life among A L survivors [3,4].

Conclusion

Children and adolescents exposed to A.L. challenge had experienced high levels of anxiety along the treatment period. An early detection of anxious children, supporting them, providing the parents an empathetic listening and clear information can appease the high levels of anxiety and contribute to a better patient care.

References: [1] Levallois S, Décombas M, Kanold J, Paillard C, Geneste J, Jalenques I. Enfants et adolescents à l ' épreuve du cancer : éclairage psychologique Children and adolescents facing the ordeal of cancer : Psychological Highlights. *Annales médico-psychologiques* 2007;165:293–7. [2] Myers R M, Balsamo L, Lu X, Devidas M, Hunger SP, Carroll WL. A Prospective Study of Anxiety, Depression, and Behavioral Changes in the First Year after Diagnosis of Childhood Acute Lymphoblastic Leukemia: A Report from the Children's Oncology Group. *Cancer*. 2014 May 1; 120(9): 1417–1425. [3] Baytan B, Aşut Ç, Kantarcıoğlu AÇ, Evim MS, Güneş AM. Health-Related Quality of Life, Depression, Anxiety, and Self-Image in Acute Lymphocytic Leukemia Survivors. *Turk J Hematol*.2016;33:326-330. [4] Anestin AS, Lippé S, Robaey P, Bertout L, Drouin S, Krajcinovic M, et al. Psychological risk in long-term survivors of childhood acute lymphoblastic leukemia and its association with functional health status: A PETALE cohort study.*Pediatr Blood Cancer*. 2018;e27356. <https://doi.org/10.1002/pbc.27356>