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Value and efficacy of early supported discharge from stroke units

Intérêt et efficience de la sortie précoce et accompagnée des unités neurovasculaires

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Abstract

Objectives. – The goal of early supported discharge (ESD) is to reduce the duration of in-patient care in stroke units (SUs) and to optimize the management of pre- and post-discharge rehabilitation. Here, we report on and discuss ESD's effects on various outcome parameters in stroke patients.

Methods. – Analysis of randomized, controlled studies and meta-analyses identified in the Medline and Cochrane databases.

Results. – ESD interventions have been evaluated in more than 10 studies. Most of the included patients had suffered from mild or moderate strokes. Meta-analyses have shown that when compared with standard care, ESD has a positive effect on the risk of death or institutionalisation, death or dependence and participation in instrumental activities of daily living (iADL). In-patient hospitalization in the SU and the overall cost of care were significantly lower. Individual studies showed variability in the inclusion criteria, type of care, comparisons performed and conclusions drawn. ESD's superiority in terms of the risk of death or dependency was mainly reported in a Norwegian study and that in terms of iADL was reported in a Swedish study. There was no specific effect on functional impairment and personal ADL (pADL).

Discussion. – This technique reduces the length of the in-patient stay and the overall cost of care while lowering the risk of death or institutionalisation and promoting participation in iADL. However, studies on this topic are heterogeneous.

Keywords: Stroke; Early supported discharge; Recovery; Outcome

Résumé

Objectifs. – Les objectifs de la sortie précoce et accompagnée (SPA) sont de réduire la durée d'hospitalisation dans l'unité neurovasculaire (UNV) et de gérer la rééducation pendant le séjour puis au domicile. Ici, nous avons présenté et discuté son efficacité chez les patients victimes d'un accident vasculaire cérébral (AVC).

Méthodes. – Analyse des études comparatives randomisées et des méta-analyses à partir des bases de données Medline et Cochrane.

Résultats. – L'effet de la SPA a été évalué dans plus de dix études ayant inclus des patients ayant généralement un AVC de sévérité légère ou moyenne. Les méta-analyses ont montré un effet positif, en comparaison avec la prise en charge usuelle, sur le risque de décès ou d'institutionnalisation et de décès ou de dépendance, et la participation aux activités de vie quotidienne instrumentales (AVQi). La durée d'hospitalisation en UNV et le coût global de la prise en charge étaient significativement réduits. Les études individuelles montraient une variabilité dans les critères d'inclusion, le type de prise en charge, les comparaisons effectuées et les résultats. La supériorité sur le risque de décès ou de dépendance était principalement décrite dans une étude norvégienne, celle sur la participation aux AVQi dans une étude suédoise. Il n'y avait pas d'effet spécifique sur les fonctions déficitaires et les AVQ personnelles.

Discussion. – Cette technique diminue la durée d'hospitalisation et le coût global, tout en réduisant le risque de décès ou d'institutionnalisation et en favorisant la participation aux AVQi. Les études sur le sujet ne sont cependant pas équivalentes.

Mots clés : Accident vasculaire cérébral ; Sortie précoce accompagnée ; Récupération ; Devenir

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1. English version

1.1. Introduction

Although dedicated stroke units (SUs) have been introduced only recently in France (in comparison with other European countries), the process has been highly formalized [9]. Many randomized and controlled trials have shown that SUs can improve patient prognosis, with a positive effect on three distinct risks: death, death or institutionalization and death or dependency [15,26]. Efficacy factors notably include the early implementation (i.e. within 24 hours of the stroke) of rehabilitation measures such as physiotherapy, occupational therapy and speech therapy [8].

Care in the SU is not solely dedicated to the treatment of brain damage and its immediate anatomical and functional consequences; it also involves discharge support and educational measures for the patient and his/her carers. Several services have been developed with the two-fold aim of accelerating and supporting home or institutional discharge. Indeed, the efficacy of early supported discharge (ESD) relative to conventional techniques was examined in several studies. Knowledge of this efficacy and of any related limitations is important, since it could help shape the efficiency measures to be implemented in French SUs. This type of support is also in phase with the needs and preference expressed by the patients' families and carers. Studies on caregiver needs have underlined the fact that the family's main concern following a stroke is to not have continuity of care after discharge from hospital [25,31].

In the present article, we review studies on ESD. These studies have already been examined in meta-analysis and systematic reviews [3,14,17,18,19]. Our main objective was to analyze the influence of ESD on the handicap's various components, while bearing in mind that not all the techniques described in the literature are suited to the situation in France and that they mainly apply to patients with mild or moderate functional impairments rather than severe impairments.

1.2. Literature analysis methods

We performed a literature search within the Medline and Cochrane databases by using the keywords ''early supported discharge'', ''discharge'' and ''stroke'' and then a step-by-step approach.

We selected randomized, controlled studies and meta-analyses on ESD in stroke patients. The goal of ESD is to improve support and enable rehabilitation at home on one hand and to reduce the length of stay in the SU or neurology department on the other.

We sought to distinguish between the overall effects of ESD (as described in the meta-analyses) from the specific effects reported in each randomized trial. Indeed, the objectives, methods and context of these various trials were often different. Furthermore, some effects have been described in only a small number of studies. The various effects were grouped together on the basis of the components of the International classification of functioning and handicap (ICFH), i.e. functions, activities (functional tests), participation in personal activities of daily living (pADL: grooming, dressing, transfers, etc.) and instrumental activities of daily living (iADL: domestic and social activities) and the patient's environment, including relatives/carers. We considered health economic aspects separately.

1.3. Results

The selected studies are presented in Table 1; most had already been examined in reviews and one meta-analysis [3,11,17].

1.3.1. Overall organization and quality of care

Understanding the results and efficacy of ESD first requires an idea of the system's organizational status and of what is provided.

In fact, ESD is not a uniform system and the intersystem differences are sometimes large. Three different types of services can be described, depending on the ESD team's degree of involvement in the management after discharge from the SU [11]:

- type 1: coordination and performance by the ESD team;
- type 2: coordination by the ESD team;
- type 3: no involvement of the ESD team outside the hospital.

In the first type (as described by Anderson et al. [2]), the mobile team includes a part-time physician, a physiotherapist, an occupational therapist and a nurse. Other personnel can potentially include a speech therapist, a social worker and a secretary [11]. According to the originators of this ESD system, it optimizes:

- systematic evaluation of the patient and his/her needs;
- a home visit with the patient, as soon as the latter's condition is stable;
- discharge planning (including technical aids, human assistance and rehabilitation) and, after assessment of rehabilitation needs, a discharge meeting with the patient, his/her family or carers, his/her physician and a member of the mobile team;
- follow-up visits as necessary, with patients being cared for at home or in the out-patient rehabilitation unit;
- an education meeting with the patient and his/her family or carers 3 months after discharge.

The length of home rehabilitation for ESD patients varied extensively, with periods of one to 19 weeks (median = 5) [1], 4 weeks [4,20], about 1 month [16] and 3 to 4 months [34]. Furthermore, in some of the studies, patients included in the control groups received little or no home rehabilitation [20]. The ESD groups displayed a slightly higher number of visits. For example, in a 12-month study in the United Kingdom (UK) [7], ESD patients received significantly more 20-minute visits (compared with controls) for physiotherapy (22.4 vs. 15),