Tonsillectomies: in dollars and cents

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Summary: Over the last quarter of a century, much controversy has been generated on the indications for tonsillectomy and adenoidectomy. The economic aspects of this operation have received comparatively little attention. The rate per 10,000 children 0 to 19 years of age for the whole province of Ontario for the year 1971 was 174 and ranged from a high of 307 in one county to a low of 59 in another. The total cost of these operations to the health insurance plan was 11.4 million dollars. National studies on the indications for these operations, their benefits and hazards are urgently required.

Résumé: *L'amygdalectomie: ses répercussions financières*

Depuis un quart de siècle, sévit une âpre polémique sur les indications de l'amygdalectomie et de l'adénoïdectomie. Pourtant, les retentissements pécuniaires de cette opération ont été relativement négligés. La fréquence de cette opération durant l'année 1971, dans toute la province d'Ontario, a été de 174 sur 10,000 patients d'âge variant de 0 à 19 ans. Les deux extrêmes géographiques ont été de 307 cas dans un comté et de 59 dans un autre. Ces opérations ont coûté au régime de l'assurance maladie un total de 11.6 millions de dollars. Il nous paraît urgent d'entreprendre à l'échelle nationale une étude sur les indications de ces opérations, leurs avantages et leurs risques.

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Both popular and medical literature abound with debates over the necessity for tonsillectomy with or without adenoidectomy to which we shall apply the term TONSAD. The frequency of these debates is almost matched by the frequency of critiques on professional experience and experimental methodology to date. Several very serious questions remain concerning the morbidity,[1-4] the recommended age for operation[4,5] and the indications for and results of operation.[3-9] While answers to these questions are vague or conflicting, physicians continue to invoke subjective considerations to determine their policy.

The economic aspect of the TONSAD question has received little attention in the literature. The wide variations of clinical practice in this area indicate that the whole subject requires serious and accurate investigation. In this article we propose to examine the economic significance of TONSAD surgery.

Source of information

Information on TONSAD operations, for individual counties in Ontario, supplying patient age and the number of days spent in hospital for this purpose in 1971, was provided by the Ontario Ministry of Health.[10] The county populations were taken from the 1971 Census of Canada, Advance Bulletin.[11] From this it was possible to calculate the operation rate per 10,000 individuals for the age groups 0 to

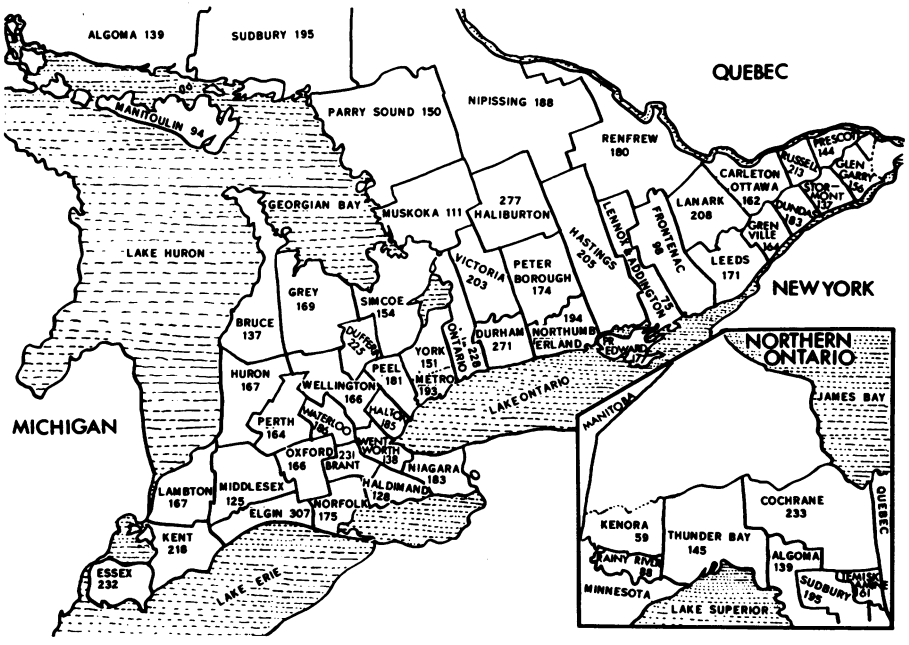

FIG. 1—Tonsillectomy with/without adenoidectomy rate per 10,000 children 0 to 19 years by county. Ontario, 1971.

19 years, as well as for the whole population of each county and for the entire province of Ontario.

The percentage of TONSADs performed by specialists and the percentage of anesthetics for the operations administered by specialists were calculated from a typical Ontario Health Insurance Plan (OHIP) billing for one month. These ratios were applied to the data for the whole year. The Ontario physicians' fee schedule[12] was employed in calculating the cost per TONSAD, and the average per diem charge for hospital stay allowed the approximate estimation of the total expenditure for the operation in Ontario for 1971.

Findings

In Ontario the age group 0 to 19 years constitutes 39% of the population. Eighty-eight percent of TONSADs in 1971 were performed on patients in this age group, a rate of 174 per 10,000 children 0 to 19 years, and 77 per 10,000 of the total population.

The distribution of TONSAD rates within the province ranged from a high of 307 (Elgin) to a low of 59 (Kenora), with no observable geographic pattern (Fig. 1). These numbers represent the operation rate for each county's residents regardless of where the operation was performed.

Of 59,413 TONSADs approximately 61% were performed by general practitioners and 54% of anesthetics were administered by general practitioners. The total amount paid by OHIP for physicians' services for TONSADs in one year amounted to 4.1 million dollars. The total number of bed days used by TONSAD patients in one year was 122,422, and calculated at the average cost per diem of hospital beds ($59.88), the hospitalization cost of TONSADs was 7.3 million dollars. The total cost of physicians' services and hospitalization amounted to 11.4 million dollars in 1971.

Discussion

The TONSAD question has many aspects, both medical and economic. The TONSAD rates around the world and within countries vary so greatly that one must conclude that more than medical necessity determines the frequency of the procedure. The rate per 10,000 children under 15 years in Uppsala, Sweden is 17; in Liverpool, England the rate is 26; and in the New England states, 70.[13] In Ontario the rate for the same age group is 200 and in British Columbia it is 107.[14]

When we consider this variation in practice and calculate the enormous cost of the program, the TONSAD question merits comprehensive attention. Eleven and a half million dollars was spent in Ontario on this operation in 1971. The amount for the whole of Canada in 1971 was 25.6 million dollars for 161,301 TONSADs (using the average Ontario cost of $159 per TONSAD).[15]

The time has come when we should weigh the practice against the results. Too often physicians schedule TONSADs out of habit or in response to parental pressure. The feasibility of doing these operations in outpatient departments[16] and family-participation units has been demonstrated. There is a need for committees to conduct carefully controlled national studies on the indications for the operation, and to determine both the short- and long-term benefits and the hazards. The many uncertainties besetting TONSADs should be resolved once and for all so that we may get more for our health dollars spent for this purpose.

The authors wish to thank Miss N. I. Grigg, Mrs. M. Valliant and Dr. G. Gold in the Ontario Ministry of Health for their kind cooperation, and the Medical Publications Department of The Hospital for Sick Children for assistance in the preparation of the manuscript.

This study was supported in part by the Department of National Health and Welfare, Canada, grant no. 606-22-77.

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