Terbutaline for Asthmatic Children

To the Editor:

In an editorial entitled "New Drugs for Asthma: A Scientific Basis for Therapy" (Chest 72:689-691, 1977), C. Warren Bierman, M.D., stated his alarm that terbutaline is not available for children almost four years after release of the drug in the United States. The editorial implies that as a consequence the drug will be used injudiciously in the pediatric population because of the absence of approved prescribing instructions.

We appreciate Bierman's concern for the pediatric population of asthmatic patients, and we think that your readers should be made aware of the status of terbutaline for pediatric use. The subcutaneous injection of terbutaline for the treatment of acute asthma or reversible bronchospasm was indeed approved approximately four years ago. This approval was based on data which included studies in children and covered pediatric patients aged 12 years and over. The oral form of terbutaline was approved in 1975; again, data included studies in children, and the approval covered pediatric usage in those children 12 years of age and over.

Therefore, studies in children were initiated prior to the approval of terbutaline. In fact, contrary to the statement in the editorial by Bierman, pediatric studies, even in children below the age of 12 years, were initiated prior to the final approval of the oral form of the drug. These latter studies have been completed, a submission has been made to the Food and Drug Administration, and a response is expected shortly.

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To the Editor:

Young points out that pediatric studies on terbutaline have been performed, and the results have been submitted to the Food and Drug Administration (FDA) to obtain pediatric approval for this drug; however, this submission postdated preparation of the editorial. To date, the FDA has taken no action on these studies, because of an issue of safety concerning the use of all β-adrenergic drugs in children. Long-term studies of toxicity with albuterol and soterenol have revealed the development of mesovarian leiomyomas in certain strains of rats. Whether these lesions are precancerous or whether they have any relevance to humans is not certain, nor is it certain whether these tumors are caused by administration of all classes of β-adrenergic agents or only by one class of compounds. Until these questions are answered, it is unlikely that the FDA will approve terbutaline for use in children.

My concerns continue about the widespread administration of terbutaline to children by physicians, in spite of the insert in the package and in the absence of specific recommendations for dosage. Until the issue of the safety of β-adrenergic agents is resolved and until terbutaline has been approved for use in children, physicians should avoid its injudicious use.

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Radiographic Appearance of Implanted Transvenous Endocardial Pacing Electrodes

To the Editor:

I have read with interest the article by Kaul and Bain entitled "Radiographic Appearances of Implanted Transvenous Endocardial Pacing Electrodes" (Chest 72: 323-326, 1977). By studies performed on cadavers, Kaul and Bain proved that the chest x-ray film (both posterior-anterior and lateral positions) cannot differentiate with certainty whether the tip of the electrode-catheter is located in the apex of the right ventricle or in an undesirable location for ventricular pacing, such as the coronary sinus, middle cardiac vein, posterior cardiac vein, or great cardiac vein. Kaul and Bain also stressed previous experiences of other investigators, proving that the electrocardiographic pattern may also be misleading in indicating the location of the tip of the catheter.

Kaul and Bain concluded that neither the electrocardiogram nor the lateral chest x-ray film can be relied upon to confirm the position of the tip of the catheter. They recommend, therefore, that for correct positioning of the tip of the catheter in the apex of the right ventricle, the catheter has to be advanced in the first stage into the main pulmonary artery, in order to confirm crossing of the tricuspid orifice.

Kaul and Bain did not mention in their article some important diagnostic clues which may throw light on the problem of localization of the tip of the catheter. These clues are the ventricular irritability and the brisk movement of the catheter when it passes the tricuspid valve, as well as the intracavitary ECG, and especially the measurements of the threshold by a temporary external pacemaker. Measurements of the thresholds for pacing and sensing by an external pacemaker reveal markedly lower values when the tip of the catheter is located in the right ventricle than in the coronary sinus or one of the cardiac veins. In the process of inserting electrode-