

derstood. Marble<sup>1</sup> suggested 3 possible causes for the congenital absence of the testes: failure of embryonic development, prenatal failure of embryonic development (prenatal atrophy), or extrauterine factors such as maternal mumps or syphilis. Since all patients with bilateral anorchia have normal phenotypic male characteristics, Jost<sup>2</sup> postulated disappearance of the testes after the critical period of sexual differentiation, that is after the twelfth week of gestation. It has repeatedly been postulated that impairment of blood supply during the descent of the testes is responsible for this disorder. Kirschner and associates<sup>3</sup> recently reported 2 patients with bilateral anorchia who demonstrated early pubertal changes and spermatic vein testosterone concentrations 10 to 50 times greater than the values in peripheral blood. They postulated the existence of a "Leydig cell only" syndrome in which there was sufficient testosterone production to result in male differentiation in the absence of identifiable testicular tissue.

We recently had occasion to see a 17-year-old Negro boy with documented bilateral anorchia who also has sickle-C disease. By history the boy has never had palpable testes and presented with a typical prepubertal appearance. Laboratory studies demonstrated markedly elevated plasma and urinary gonadotrophins in the presence of low plasma testosterone. We feel the case is significant because of a possible etiologic relationship of the sickle-C disease to the anorchia, realizing, however, that fetal hemoglobin protects against sickling phenomenon until about 6 months of age. The association of anorchia with sickle cell disease or any of the related variant diseases has not previously been reported.

Another interesting facet in this boy was an astonishing improvement in his weight and height, sexual awareness, secondary sexual development, and, unexpectedly, in his anemia, when he was placed on intramuscular testosterone injections. No attempt was made to measure changes in red cell mass or erythropoietin levels.

The beneficial effect of testosterone on erythropoiesis in patients with breast carcinoma, myelofibrosis, and aplastic anemia, but not in sickle cell disease, has been previously described. The mechanism by which testosterone stimulates red cell production is not well understood, although it has been shown to stimulate erythropoietin production, act synergistically with erythropoietin, and also to directly stimulate erythroid cells.<sup>4</sup>

The patient has continued to maintain normal hematocrit and hemoglobin levels over a 10

month follow-up period. The improvement in this patient may be primarily related to correction of testosterone deficiency rather than a primary action on the erythropoietic mechanisms. However, a commonly described trait of sickle cell disease victims is hypogonadism. The possibility that these individuals are testosterone deficient and would be benefited by testosterone therapy is an interesting postulation.

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#### *Klebsiella pneumoniae in a premature nursery*

*To the Editor:*

The report by Adler and associates (J. PEDIAT. 77:376, 1970), Nosocomial colonization with kanamycin-resistant *Klebsiella pneumoniae*, types 2 and 11, in a premature nursery, confirms our findings reported to the Society for Pediatric Research at Atlantic City in May of this year. Other aspects were presented at the Annual Meeting of the American Society for Microbiology, one month earlier in Boston.

Because of increasing numbers of infections with kanamycin-resistant gram-negative rods, we began a prospective epidemiologic study in our intensive-care nursery, where kanamycin and penicillin are used as first-line drugs. Normal nursery acted as control.

By day 3 more than 60 per cent of infants in the intensive-care nursery were colonized with kanamycin-resistant organisms, first in the gastrointestinal tract and then other sites in ascending fashion. These organisms were found to transfer their resistance patterns to a suitable recipient demonstrating the presence of R factors. The use of kanamycin in the individual patient had no significant effect on colonization.

Hand contamination of personnel again seems to be the vehicle by which these infections are propagated. Handwashing with liquid hexachlorophene soap did *not*, however, significantly decrease the hand colony count of kanamycin-resistant organisms. In contrast to Adler and associates, we found a marked increase of serious infections with these R factor-carrying organisms associated with surgical procedures and prolonged hospitalization.

More studies must be done to clarify the carrier state of the personnel, the role kanamycin plays as a constant first-line drug, and what can be done to improve the present situation.

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## Reply

To the Editor:

The studies carried out by Reber and associates further clarify the importance of antibiotic usage leading to the selection of antimicrobial-resistant organisms as endemic or even epidemic strains within certain geographic areas of a hospital. Although we did not demonstrate an R factor in the strains isolated in our study, it is quite possible that these klebsiellae acquired one or more R factors but lacked the ability to transfer them to other strains.

Gardner and Smith<sup>1</sup> suggested that environmental selection is of greater importance in the colonization of patients with resistant organisms than the transfer of R factors in the gastrointestinal tract to the patient's own sensitive flora. They supported this claim by demonstrating that all patients colonized with R factor-mediated resistant klebsiellae were of a single serotype, type 3, endemic to their particular hospital. Our finding of only 2 serotypes of klebsiellae with iden-

tical sensitivity patterns also suggests that these strains were endemic to the particular area in the hospital studied and became established by the extensive use of kanamycin within that nursery. These observations are further supported by the finding that infants became colonized early in life with the resistant klebsiella strain before they became colonized with other aerobic gram-negative organisms.

We do not claim that improved handwashing techniques checked the spread of the resistant klebsiellae. However, we felt the use of bar soap was contributing to the persistence of the organism on the ward. It is conceivable that there was a spontaneous diminution in the prevalence of these klebsiellae.

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## *Behavioral pediatrics for children with developmental defects*

To the Editor:

Dr. S. B. Friedman's comments in the Editor's column, "The challenge in behavioral pediatrics," is, I believe, rightly emphasizing the need for systematic training in the psychologic and social aspects of normal and abnormal development. I would like to suggest a broader context for "behavioral pediatrics" which includes those whose central nervous systems may not be intact. Such a training program would include the assessment and management of children with a variety of types of deviant development: mental retardation, learning problems, birth defects, and other chronic handicaps and illnesses, as well as behavior disorders, adolescent problems, and community problems. There is value in each individual emphasizing his own area of interest, but a systematic "Behavioral pediatrics" or "child development" training should include exposure to the assess-