the inherited susceptibility of the H rats to hypertension may be associated with an inherited anomaly in sodium transport.

Résumé. Nous avons étudié le flux du sodium (Na\textsuperscript{22}) dans des hématies provenant de 2 souche de rats obtenues par croisement consanguin et possédant une susceptibility différente à l’hypertension artérielle. La tension artérielle chez les rats hypertendus était $158 \pm 11$ mm Hg vs $123 \pm 7$ mm Hg chez les rats normotensifs ($p < 0.01$). L'efflux du sodium, par heure, était plus rapide chez les animaux hypertendus ($1.38 \pm 0.26$) que chez les normotensifs ($1.03 \pm 0.08$, $p < 0.01$).

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Inhibitors of the Adhesiveness of Enteropathogenic \textit{E. coli}

Many species of enterobacteriaceae have nonflagellar appendages called fimbriae. The roles of fimbriae are at the present not well-defined. Strong evidence has been provided by Duguid\textsuperscript{1} that they confer adhesive properties on bacilli and that only the fimbriate bacteria are able to adhere to different types of cells, including the epithelial cells of intestinal mucosa. Mutations can affect the synthesis of fimbriae\textsuperscript{1}. Darekar et al.\textsuperscript{2,3} have shown in mice challenged with the fimbriate strain of \textit{S. typhimurium} or the non-fimbriate mutant derived from it, that the fimbriate strain produced greater number of infections and had greater opportunities for dissemination and spread to susceptible hosts. Fubara and Freter\textsuperscript{4} have given indirect evidence that the adhesive properties play a

Fig. 1. Electron-microphotograph of fimbriate \textit{Escherichia coli} 0125: K70. Shadow-cast, $\times 27,000$. 
role in the pathogenesis of cholera, allowing the vibrios to adhere to intestinal mucosa, grow and produce enterotoxin. By way of analogy, it can be supposed that the same adhesive properties enhance the pathogenicity of some enteropathogenic E. coli strains or explain the chronicity of urinary infections caused by E. coli.

The aim of this work was to study inhibitors of the adhesiveness of enteropathogenic E. coli.

**Material and methods.** E. coli strain. The strain E. coli 0125: K 70 isolated from the stools of a diarrhoeic child has been selected because of its strong hemagglutinating activity and its richly fimbriate appearance under electron microscope (Figure 1). This strain was given to us by Dr H. Hilpern from Nestlé SA (Vevey, Switzerland). The bacteria are grown for 48 h at 37°C in Nutrient Broth (Oxoid, London, England). Formaldehyde was added to the culture at a final concentration of 0.25%. The bacteria were washed 3 times and resuspended in phosphate buffer saline (PBS).

**Preparation of isolated fimbrae.** The bacteria were grown for 48 h at 37°C in Nutrient Broth. After mechanical treatment of the bacterial culture, the fimbrae were isolated, according to Brinton, by precipitation at the pH (3.9) followed by paracrystallization with MgCl₂ 0.1 M. 1 l of culture produced about 2 mg of protein as determined by Kjeldahl or by microbiurc method. The electronmicroscopic examination displayed the typical morphology of fimbrae (Figure 2).

**Hemagglutination test.** Guinea-pig erythrocytes were washed 3 times in PBS and used as a 3% suspension in PBS. The test was performed on plastic trays by mixing 50 μl of the formalized bacterial suspension or of the

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Fig. 2. Electron micro-photograph of isolated fimbrae from E. coli 0125: K 70 Shadow-cast, x 78,000.