constriction varied, but in two experiments in which each dose of $PGF_{2\alpha}$ was infused for 10 min, flows returned to control levels before the infusion was completed.

The effect on forearm arterial blood flow of the PGs used in this study has not previously been reported in man. Bevegård & Orö (1969), however, examined the direct action of PGE_1 in man and found it to have a dilator effect at dose levels similar to those found by us to be effective with PGE_2. PGs A_1 and E_1 have been shown to have a dilator effect in the dog (Nakano, 1968; Greenberg & Sparks, 1969), but $PGF_{2\alpha}$ has a dominant constrictor effect in this species (Nakano, 1968; Greenberg & Sparks, 1969).

The relatively high potency of PGE_2 in the arteries of man as compared with other PGs is similar to that observed in the veins of man (Collier *et al.*, 1972). The finding that PGs B_1 and $F_{2\alpha}$ cause only constriction in veins but are capable of causing dilatation in arteries, while PGs A_1, A_2 and E_2 have the same effect in both beds suggests that the PG receptors for mediating constriction and dilatation are different. The response produced by PGs in any vessel would therefore be expected to depend, at least in part, on the relative numbers of each receptor present.

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Preliminary studies of serum levels and the excretion of a new cephalosporin derivative, the sodium salt of 7-cyanacetamido-cephalosporanic acid (CIBA 36,278A-Ba) in normal human subjects and rabbits

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CIBA 36, 278A-Ba is a new cephalosporin derivative which shows considerable activity against β-lactamase-producing strains of *S. aureus* (Knüsel, Konopka, Gelzer & Rosselet, 1971; Russell, 1972). In a study carried out in healthy adult human volunteers, five male subjects received CIBA 36,278A-Ba (500 mg dissolved in 10 ml sterile water) intravenously over 1–2 min. Antibacterial activity in blood and urine was assayed microbiologically using *B. subtilis* NCTC 8236 as test organism. Results are expressed in terms of CIBA 36,278A-Ba. The mean serum level of antibacterial activity 15 min after injection was 30·7 μg/ml (range 13·8–75·7 μg/ml). However, antibacterial activity disappeared rapidly from the serum and the mean half-life was 33·2 min (S.D. of mean $\pm$4·2). The phase of maximum urinary excretion of antibacterial activity occurred in the first 2 h of the drug being administered but small amounts of the active substance continued to be excreted

up to 10 h. The mean cumulative urinary excretion of antibacterial activity in 10 h was 84·3% (S.D. of mean ±15·5) of the intravenous dose. The drug was well tolerated in all subjects both locally and systemically and no changes in hepatic and renal function or in haematological parameters occurred.

In one additional subject the various values measured were considerably different from those of the above volunteers *viz.*, serum level at 15 min 7·6 μg/ml, serum half-life 83·5 min and 10 h—cumulative urinary excretion 53·9%. The reasons for this are not known; renal and hepatic function in this subject were within the normal ranges.

CIBA 36,278A-Ba (25 mg/kg, i.v.) was given to groups of 5 male albino rabbits (*circa* 2 kg). Antibacterial activity rapidly appeared in the urine, the mean cumulative excretion in 3 h being 36·1%. No antibacterial activity was detected in the urine of these animals after this time. Probenecid (30 mg/kg, i.v.) administered immediaely before CIBA 36,278A-Ba decreased the mean recovery of antibacterial activity in the urine (24·8% in 3 h) and increased the mean serum half-life of antibacterial activity from 24·5 min in controls to 38·6 minutes. These results suggest that CIBA 36,278A-Ba is excreted both by glomerular filtration and active renal tubular secretion in the rabbit. Negligible quantities (<0·2% of the dose) of antibacterial activity were excreted in rabbit bile up to 2 h after administration of CIBA 36,278A-Ba.

The antibacterial activity in protein-free serum (30 min) and urine (0–2 h) of volunteers and rabbits receiving CIBA 36,278A-Ba possessed the same mobility as that of the unchanged compound on thin-layer chromatography in two solvent systems.

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Some clinical pharmacological effects of althesin (CT 1341)

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Some clinical effects of the intravenous induction agent althesin (CT 1341) were studied in two groups of six fit male patients undergoing minor elective surgery. The patients were premedicated with diazepam 10 mg orally and given oxygen by mask for approximately three min before induction. Althesin was used in a dose of 0·1 ml/kg body weight in one group and 0·05 ml/kg body weight in the other. Anaesthesia was maintained with halothane and oxygen delivered by mask through a Mapleson A circuit.