

図1 脳循環自動調節能 (autoregulation)

健常人では平均血圧が60～120 mmHgの範囲で変動しても脳血流は一定に保たれる。このautoregulationの閾値を超えて血圧が上昇すると、圧依存性に脳血流増加が生じる。高血圧者ではautoregulationの閾値が血圧の高い方にシフトしており、血圧上昇に対して保護的となっているが、一方で血圧低下の場合には、健常人よりも脳血流が低下しやすい。

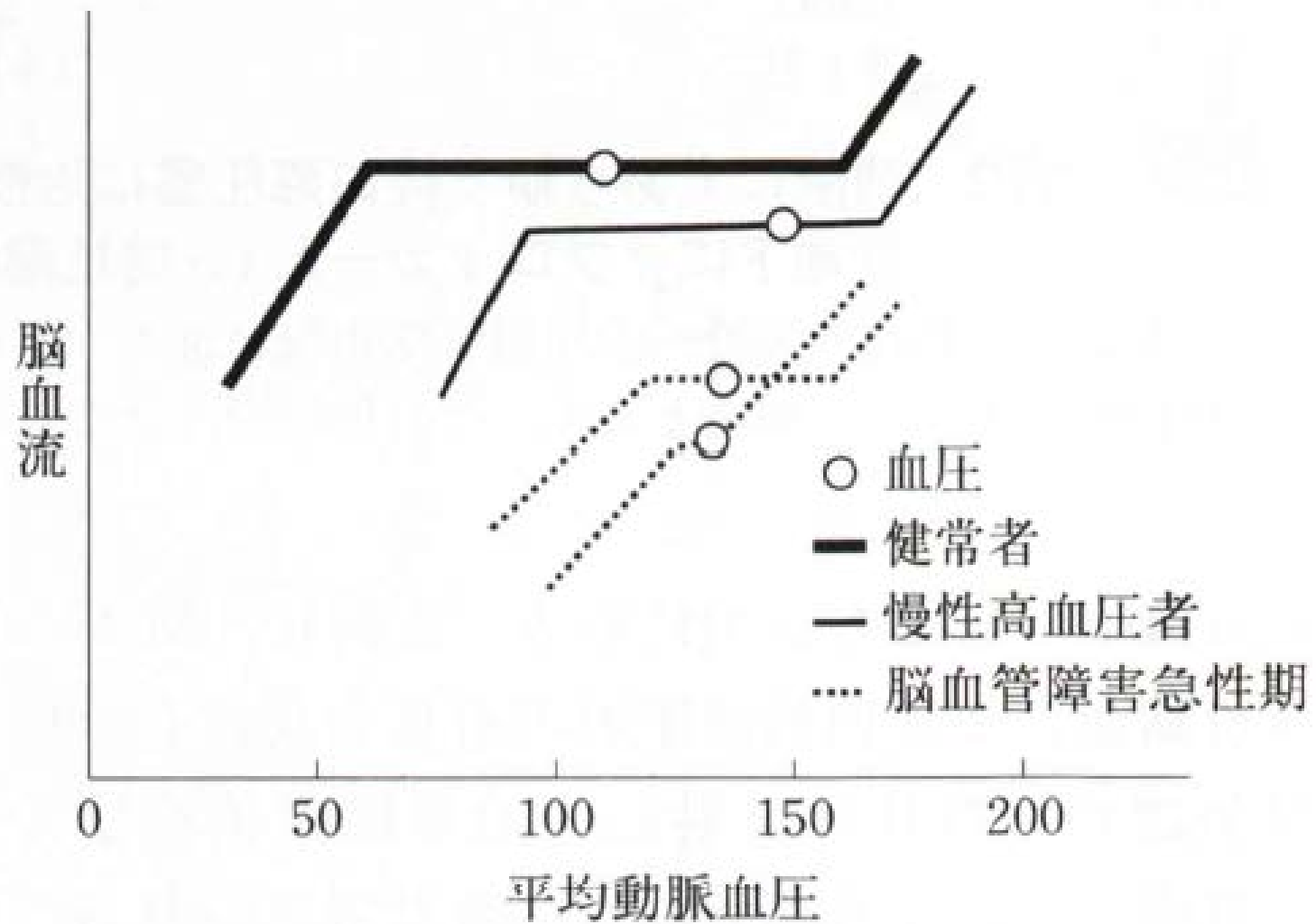


図 1 健常者および各種病態における脳血流と平均動脈血圧の関係

高血圧と慢性腎疾患の合併の場合

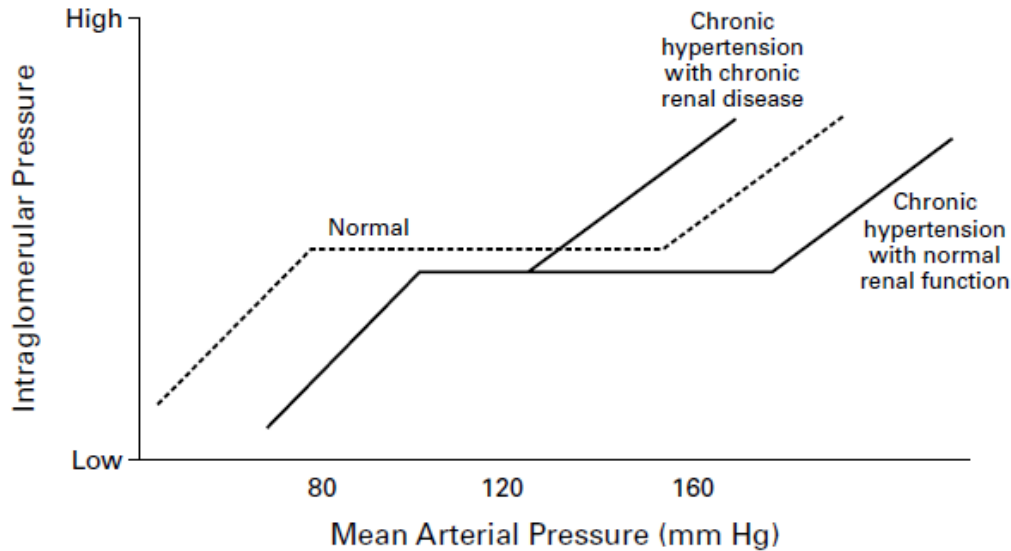


Figure 1. Maintenance of Relatively Constant Intraglomerular Pressure by Renal Autoregulation despite Variations in Mean Arterial Pressure.

In chronic hypertension, the curve showing the relation of the intraglomerular pressure to the renal perfusion pressure (or mean arterial pressure) is shifted to the right. With the development of chronic renal failure, renal autoregulation changes in such a way that the intraglomerular pressure begins to vary more directly with changes in the mean arterial blood pressure. When this change occurs, the normal sigmoidal relation becomes progressively more linear. As a result, increases in the mean arterial pressure cause exaggerated increases in the intraglomerular pressure, whereas declines in the mean arterial pressure cause exaggerated decreases. Because of the rightward shift in the lower end of the curve, antihypertensive therapy may be accompanied by a decline in the glomerular filtration rate at a level of blood pressure that would not affect a normal person. Renal dysfunction in this setting is hemodynamic in origin and reflects a lower intraglomerular pressure.

この場合は高い場合も低い場合も安全域が狭い事を示しています。