

## Case 32

Figure 32.1 illustrates the head of a 3-week-old baby girl.

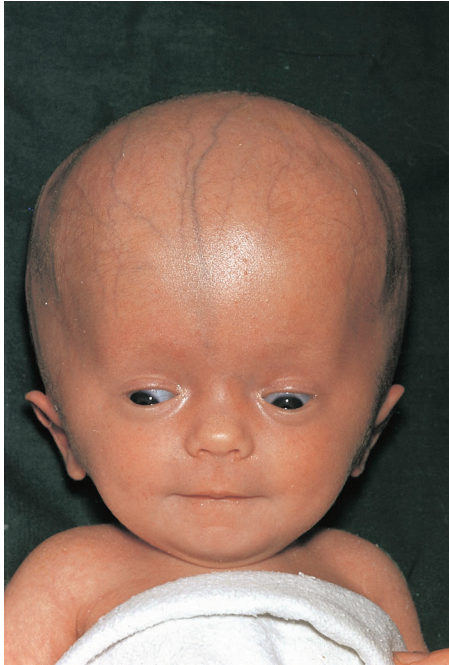


Figure 32.1

### What is this condition called?

Congenital hydrocephalus.

### What do you notice that is typical about the eyes in this child?

The eyes are deviated downwards due to compression of the upper brainstem. There may also be a squint and nystagmus in this condition.

### Is papilloedema present on examining

### the fundi of these infants?

Characteristically, no.

### What other physical signs might be commonly found on examining the enlarged head?

- The fontanelles bulge, the cranial sutures are widened (noticeably the sagittal suture) and dilated subcutaneous veins can be seen coursing over the cranial vault, as is shown in Fig. 32.1.
- X-rays of the skull in older children may show 'copper beating' of the bones of the vault and erosion of the pituitary fossa.

### What other congenital anomaly is typically associated with this condition?

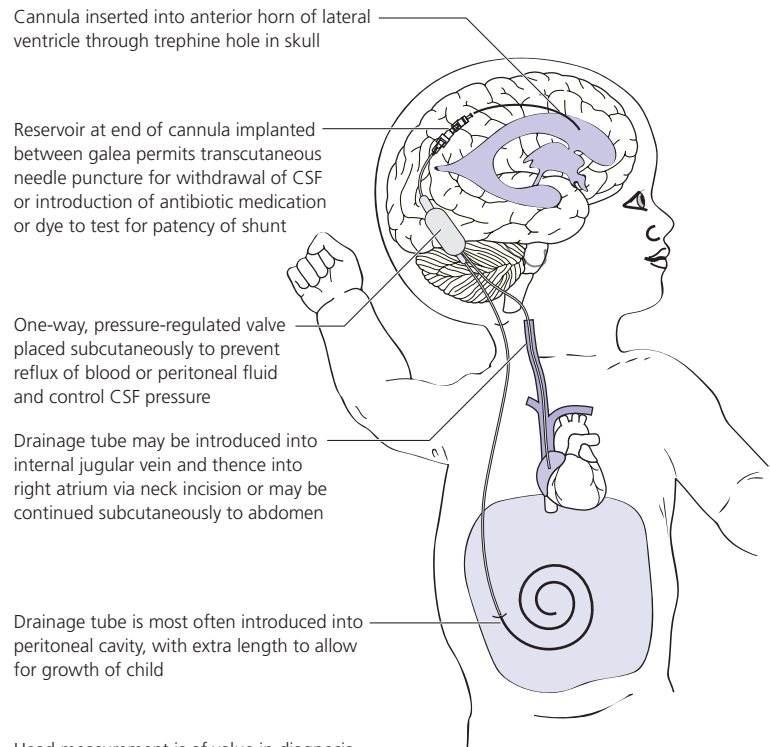
Spina bifida (see Case 36, p. 75).

### What is the surgical treatment of this condition?

A shunt using a Spitz–Holter valve\* between the lateral cerebral ventricle and the right atrium or peritoneal cavity (Fig. 32.2).

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\*John Holter (1916–2003), machinist at the Yale and Town lock company, Philadelphia; Eugene Bernard Spitz (1919–2006), paediatric neurosurgeon, Philadelphia. The Spitz–Holter valve is a one-way valve that releases controlled amounts of cerebrospinal fluid from the brain. John Holter had a son with hydrocephalus, and designed the valve in 1956 to treat the condition. His son lived for 5 years.



**Figure 32.2** Shunt procedure for hydrocephalus using a Spitz–Holter valve. CSF, cerebrospinal fluid.

Head measurement is of value in diagnosis especially in early cases, and serial measurements will indicate progression or arrest of hydrocephalus