



## The Courvoisier's sign

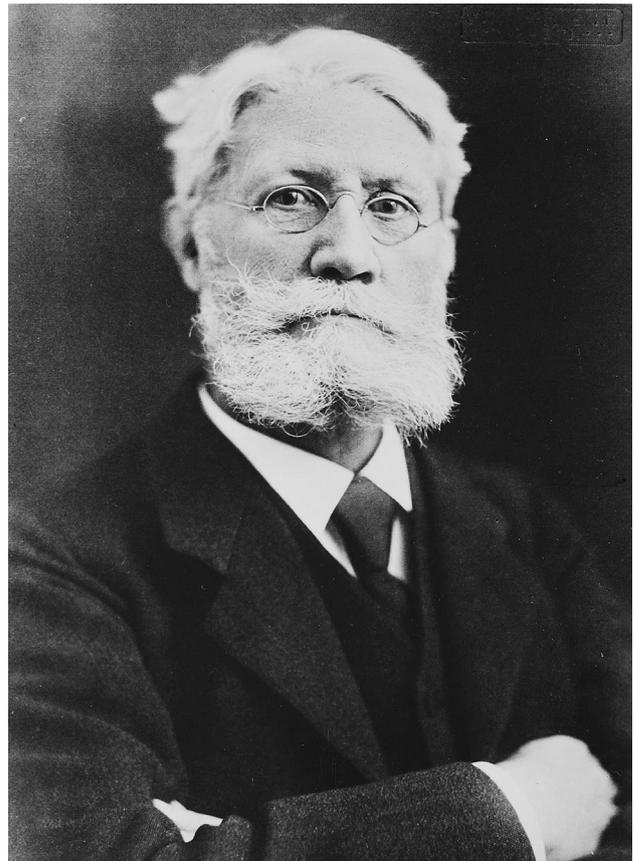
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The Courvoisier's sign (also called “Courvoisier's law” or “Courvoisier's gallbladder”) is an eponymous medical term, stating that patients with painless jaundice and an enlarged, palpable gallbladder often have a non-calculus obstruction of the biliary system [1]. This classic clinical sign first appeared in the 1890 edition of the book “The pathology and surgery of the gallbladder” by the Swiss professor Ludwig Georg Courvoisier (Fig. 1). He described 187 cases of common bile duct obstruction, observing that gallbladder dilatation seldom occurred with stone obstruction of the bile duct [2].

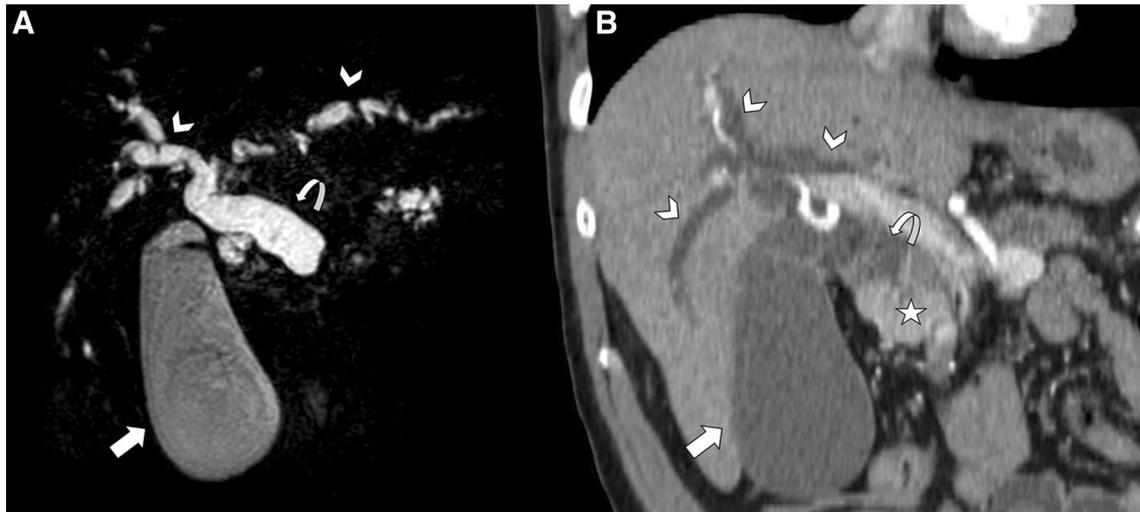
For decades after its initial description, the Courvoisier's sign was used as an important clinical sign for the differential diagnosis of jaundice. It is often associated with distal malignant obstruction of the biliary ducts, in particular biliary tumor (cholangiocarcinoma), periampullary carcinoma (adenocarcinoma of papilla of Vater), and pancreatic head cancer [3]. Gallbladder distension has been thought to develop because the distal malignant obstruction leads to gradually increased intraductal pressures. On the contrary, gallstones cause obstruction in an intermittent fashion, generally not consistent enough to produce such a chronic rise in pressure [4]. However, exceptions to Courvoisier's sign do exist: sometimes it can also be seen in benign processes, including stone obstruction of the distal common bile duct [2]. Nowadays, advances in diagnostic imaging have led to a more accurate and earlier diagnosis of this sign. In particular, CT and MR imaging frequently identify the underlying cause of Courvoisier's sign in most cases (Fig. 2) [2].



**Fig. 1** Professor Ludwig Georg Courvoisier (1843-1918). Public domain image from Wellcome Collection gallery (<https://wellcomecollection.org/works/ywne2adq>). Accessed 03/11/2018

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**Fig. 2** The Courvoisier's sign in a 42-year-old man with jaundice. Coronal MRCP (a) and coronal oblique reformatted contrast-enhanced CT (b) images show gallbladder enlargement (straight

arrows), dilated intrahepatic bile ducts (arrowheads), and common bile duct (curved arrows) due to the presence of pancreatic head adenocarcinoma (star)

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### Compliance with ethical standards

**Conflict of interest** The authors declare that they have no conflict of interests.

**Research involving human participants and/or animals** This article does not contain any studies with human participants or animals performed by any of the authors.

**Informed consent** Statement of informed consent was not applicable since the manuscript does not contain any patient data.

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