Only 4 cases of laparoscopic cholecystectomy converted to open method due to extensive adhesions with unclear anatomy (3 cases), and uncontrolled bleeding (1 case), and this gives a conversion rate (3.3%).

Table 3. Comparison between this study and other studies regarding vascular anomalies

Studies	Anterior cystic or anterior RHA (%)	Accessory cystic artery (%)
Our study (2000)	16	18
Khamiso (2010) [8]	2.67	1
Gupta (2003) [15]	-	15
Bhanasali (2003) [16]	-	20
Adkins (2000) [3]	-	12
Shwartz (1999) [13]	15	25
Stremple (1986) [14]	20	25
Benson (1976) [5]	20.7	26.4
Moosman (1951) [17]	19.6	25.2

Discussion

Many studies reported that the incidence of biliary anomalies varies from 15 to 66 percent. [1,3,5,7-11] In this study the incidence of anatomical abnormality in the disposition and relations of the extrahepatic bile ducts and arteries is (54%), so it is within the range reported by others, thus the surgeon will meet some anomaly in every other case upon which he operates. This in keeping with the statement made by Hand (1973) [6] "It is difficult to know what is normal and what is abnormal". Although the incidence of anomalies is high, there are in fact a relatively few surgical important ones (three vascular and four ductal) and all these were readily recognized at operation.

Vascular anomalies

Vascular anomalies (40%) were more common than ductal anomalies (12%). Commonly the cystic artery passes superior and medial to the cystic duct within the Calot's triangle [3] as in this study (96%), while it is found outside in 6 cases only (4%), inferior to cystic duct especially when there is high insertion of this duct. So it is important to be aware of the situation when no artery is seen in Calot's triangle, because various abnormalities in position may exist and overlooking them result in sever hemorrhage [12].

The commonest vascular anomalies are:

I. Accessory cystic artery (18%):

This high incidence was also reported in many studies (no statistical significant difference between our study and other studies: $P > 0.05$), as shown in (Table 2) [3,13-17]. Therefore, after carefully ligating or clipping one artery, the surgeon must search carefully for the possibility of another supply which may have any source of origin, and if not identified this may be torn and bleeding may obscure the operative field and hurried blind clamping may produce a disaster [14].

II. Anterior transposition of the cystic artery or the right hepatic artery (RHA) anterior to the CHD or CBD:

This anomaly was found in (16%), which was also reported by other studies as shown in (Table 3), again there is no statistical significant difference between our study and other studies: $P > 0.05$. It is clinically important to note especially when doing an exploration of CBD, and when the anterior cystic artery being ligated there is always a possible risk of direct injury to either CBD or CHD, depending on where the anterior cystic artery runs, how closely it is related to the ductal structure and how far proximally the ligation is placed [14].