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Pre-operative screening for biliary atresia in cholestatic infants: A case for percutaneous liver biopsy

To the Editor,

Thank you to Dr. Robert Cowles and colleagues for your detailed correspondence about our paper regarding diagnosis of biliary atresia (BA). Your constructive criticism is valid, and we hope to allay some of your concerns if we can.

We introduced diagnostic laparoscopy in infants with prolonged jaundice in 1997 [1], and believe our procedure allows BA to be diagnosed accurately and promptly in infants even less than 6 weeks old. This approach is particularly well tolerated in neonates because the patients can proceed to Kasai portoenterostomy directly after their diagnostic laparoscopy, if indicated. We designed our study on this premise and are much obliged to Dr. Shaughnessy and his colleagues for pointing out the shortcomings of our strategy for diagnosing non-BA patients.

Unfortunately, the diagnosis of non-BA diseases was not the purpose of our study. Our purpose was to evaluate the necessity of diagnostic percutaneous liver biopsy (DPLBx) when diagnostic laparoscopy is readily available. As they mention, they accept that diagnostic laparoscopy has a valid role *preliminary* to Kasai portoenterostomy and essentially we are talking about the same thing. They also mention that DPLBx can be performed expeditiously with acceptable complication rates in many institutions around the world while providing results within 24 h. We discuss this same issue in our paper but from the opposite perspective, i.e., that accurate DPLBx results at our center take 2–3 days at best and that we do not have access to the results within 24 h. Perhaps this is the point of contention, i.e., the availability and reliability of histopathology services. The authors are blessed to have a dedicated, centralized BA center at their disposal, but most institutions internationally would probably not have specialists in pediatric hepatology on staff which would influence the evaluation and reporting of specimens. For utmost accuracy, our institution always performs the full gamut of examinations before issuing a report. This is conventional to the best of our knowledge, and we do not have the impression that our histopathology services are particularly slow. We wonder what kind of staining and examinations are available within 24 h? Frozen section is obviously quicker and probably adequate for diagnosing BA, but we are always worried about biopsies not being representative of the entire liver. From this aspect, laparoscopic inspection allows the entire liver and surrounding tissues to be examined directly, and the turnaround time for a DPLBx patient at our center is thus longer than for a diagnostic laparoscopy patient. Nevertheless, the fact remains that, in our study, there were 16 patients with non-BA diseases who had diagnostic laparoscopy to confirm they did not have BA.

Another issue is the risk of laparoscopy involving anesthesia and insufflation in a potentially sick jaundiced infant with a non-BA diagnosis. Multi-institutional analyses of endoscopic surgery in Japan have reported the success of procedures performed for BA [2] and non-BA diagnoses such as esophageal atresia [3] in neonates and infants that are far more extensive and time consuming than a diagnostic laparoscopy, which can be completed safely in less than 1 hour. To date, we have experienced neither complications related to laparoscopy nor clinical deterioration after laparoscopy in non-BA patients nor have we encountered any issues or sequelae of anesthesia that could be considered detrimental.

The authors referred to diagnostic laparoscopy as being expensive, but under Japan's national health insurance scheme, all expenses for treatment of congenital diseases in children less than 16 years old are fully covered. The cost of using a DPLBx and histopathology approach versus a diagnostic laparoscopy would be interesting to assess.

As the authors mention, prompt diagnosis of BA ensures timely surgical intervention. In our paper, we proposed that diagnostic laparoscopy should be followed immediately by Kasai portoenterostomy to expedite operative correction in BA patients. Having immediate access to accurate histopathology is indeed enviable, but our experience is rather different. Given our circumstances, we believe our choice to utilize diagnostic laparoscopy over DPLBx, is reasonable and practical.

We appreciate Dr. Shaughnessy and his colleagues writing to alert us of issues related to the diagnosis of non-BA patients in our series.

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References

[1] Okazaki T, Miyano G, Yamataka A, et al. Diagnostic laparoscopic-assisted cholangiography in infants with prolonged jaundice. Pediatr Surg Int. 2006;22:140–3.
[2] Okuyama H, Koga H, Kawashima H, et al. Current practice and outcomes of thoracoscopic esophageal atresia and tracheoesophageal fistula repair: a multi-institutional analysis in Japan. J Laparoendosc Adv Surg Tech A. 2015;25:441–4.
[3] Murase N, Hinoki A, Shirota C, et al. Multicenter, retrospective, comparative study of laparoscopic and open Kasai portoenterostomy in children with biliary atresia from Japanese high-volume centers. J Hepatobiliary Pancreat Sci. 2019;26:43–50.