



**Figure 3.** Non-viable myocardium  
Delayed post contrast short axis MR image showing transmural enhancement of the anterior wall of the left ventricle consistent with non-viable myocardium.

present study 8 patients with documented coronary artery disease on coronary angiography were subjected to cardiac MRI with the aim to evaluate viability of the myocardium. The results based on post contrast delayed studies revealed presence of viable myocardium in 3 patients whereas in 5 patients there was evidence of irreversible myocardial damage (Fig 3).

Initially described in 1977, arrhythmogenic right ventricular dysplasia (ARVD) is a rare and familial disease characterized pathologically by fibrous and fatty replacement of the right ventricular myocardium. Patients generally present with arrhythmias of Rt ventricular origin, which may lead to sudden death. MRI has shown good results in diagnosing ARVD by providing information about regional wall motion, fatty infiltration of the Rt ventricular free wall and myocardial thinning<sup>10</sup>. On T1-weighted images focal areas of increased signal is observed in the Rt ventricular myocardium because of fatty infiltration. In the present study 6 patients were evaluated for suspected dysrhythmic Rt ventricular dysplasia by MRI and the same was confirmed in 3 patients whereas 3 were normal.

Latest research has opened up newer horizons in the field of cardiac

imaging with a view to image the coronary arteries, which have been known to be one of the most difficult arterial circulations to image. The challenges for MRI in imaging coronary arteries are their inherent complex geometry and tortuosity, their small caliber and their continual displacement by respiratory and cardiac motion. With improvement in technology and continued research into the various techniques of 2 and 3-dimensional MR imaging, it will soon be possible to image the coronary circulation using MRI. Since 20–40% of all diagnostic catheter coronary angiograms reveal no clinically significant stenosis, the development of an accurate and non-invasive technique to image the coronaries using MRI would represent a significant improvement in management of patients with suspected coronary artery disease.

In conclusion it is reiterated that cardiac MRI has already emerged as a useful technique in the evaluation of congenital and acquired heart diseases. It has a specific role in myocardial viability studies and is being increasingly used as a “one-stop” comprehensive imaging modality in the morphologic and functional evaluation of the heart. With the continuing shift towards non-invasive diagnostic procedures the applications of cardiac MRI will continue to expand and with the ongoing advancements in equipment and scanning techniques it is not far when MRI will be the leading imaging modality for all types of cardiovascular diseases and in particular ischaemic heart disease.

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## CORRIGENDUM

Corrected versions of few spelling mistakes in the abstract of the article: Human Campylobacteriosis - an underdiagnosed etiology of Bacterial Diarrhea in India (April-June 2007 Issue) Vol. 20, No. 2 Page 147 are as under:

|                 |                  |                   |
|-----------------|------------------|-------------------|
| Dearrioea       | to be spelled as | Diarrhoea         |
| Immunocomprised | to be spelled as | immunocompromised |
| Hort            | to be spelled as | Host              |
| Culture         | to be read as    | Cultural          |

Inconvenience caused is highly regretted.

Editor

## Next Issue Highlights

### Special Issue : Challenges of Diabetes in the Developing World

- Burden of Diabetes in the Developing World
- Young Onset Diabetes Mellitus
- Pre-Diabetes- Detection and Future Implications
- Gestational Diabetes Mellitus in India
- Management of Diabetes Mellitus : Current Perspective
- Diabetes & Coronary Artery Disease – The Twin Epidemic in the Developing World
- Diabetic Foot Disease in the Developing Countries
- Preventing Micro Vascular Complications In Diabetes Mellitus
- Diabetic Education: A Critical Component Of Diabetic Care
- Prevention Of Diabetes: Role Of Lifestyle Interventions
- Future Directions to Meet the Challenges of diabetes in the Indian setting ( Innovative Therapies – Stem Cell Therapy, Pancreatic/Islet Cell Transplantation etc)
- Indigenous Drugs in the Treatment of Diabetes in India

## DISCUSSION

We found a conversion rate of 12% in our study, whereas the conversion rates reported in previous studies vary from 1.2% to 35%. This conversion rate is comparable to that reported by McLoughlin et al<sup>1</sup> and Liu et al<sup>2</sup>, who reported conversion rates of 10.41% and 9% respectively. But this conversion rate of ours is higher than that reported by Southern Surgeons Club<sup>3</sup> and Cuschieri et al<sup>4</sup>, who published very low conversion rates of 4% and 5.3% respectively. On the other hand Zucker et al<sup>5</sup> and Kiviluoto et al<sup>6</sup> have reported comparatively higher conversion rates of 27% and 16.5, respectively. We noted an overall complication rate of 16% in our study with major complications requiring conversion occurring in 4 (5.33%) cases Table 2. Our major complication rate was very similar to that of Koo et al<sup>7</sup> and of Southern Surgeons Club<sup>3</sup>, who reported major complication rates of 5.5% and 5.1%.

**Table 2:** Complications encountered during laparoscopic dissection

| Complication                                   | No. of patients | Outcome                              |
|--|-----------------|--------------------------------------|
| Lost stones and Bile leak in peritoneal cavity | 8               | Improved on Conservative treatment   |
| Superficial Wound Infection                    | 2               | Improved on Conservative treatment   |
| Prolonged bile leak in post-operative period   | 2               | Controlled by itself                 |
| Excessive Bleeding from the Liver bed          | 2               | Conversion done and managed on table |
| Injury to Acc. Rt Hepatic artery               | 1               | Conversion done and managed on table |
| Injury to aberrant branch of Rt hepatic Duct   | 1               | Conversion done and managed on table |

In our study no CBD injury was noted. Zucker et al<sup>5</sup> also did not report any CBD injury from their case series. Many other workers have reported low rates of CBD injury. Cuschieri et al<sup>4</sup> reported CBD injury in only 0.32% of their cases. Koo et al<sup>7</sup> found that the overall complication rate and incidence of CBD injury was 5.5% and 0.2% respectively. Overall complication rate in our study is higher than those reported by other workers. The reason for that is that the surgeons in our institution are still in the learning phase of for laparoscopic surgery.

Our study revealed that presence of intra-abdominal adhesions was the most significant reason for conversion of surgery. Kama et al<sup>8</sup> also made similar observations. In our study pre-operative USG could detect the adhesions in 34.78% cases only. Rattner et al<sup>9</sup> also concluded that value of ultrasonography in detecting intraabdominal adhesions was not much. We found multiple gallstones to be an important reason for conversion. Small stones can often cause obstruction in Hartman's pouch, hence proper retraction is not maintained. Around 70% of our entire study population had multiple Gallstones and they were identified correctly by the pre-operative USG. It has previously been observed that single large stones tend to pose difficulty in grasping the gall bladder, thus causing difficulty in surgery but Sakuramoto et al<sup>10</sup> observed that number of gallstones does not correlate with technical difficulty during surgery.

In our study patients with hepatomegaly posed problems in laparoscopic dissection. This is because it is difficult to put the epigastric port in correct place and because of the limited mobility of the dissecting forceps, put in,

through the epigastric port. This confirms the findings noted by Dararkah<sup>11</sup>. Increased gall bladder wall thickness (>4 mm) has been reported to be a significant predictor of difficult laparoscopic surgery by Kama et al<sup>7</sup>. Thickness of gall bladder wall on pre-operative USG represents the present inflammation or fibrosis due to repeated previous attacks of acute illness. Such inflamed tissue is difficult to handle and dissect and thus surgery becomes difficult. However our analysis did not find this factor to be important, an observation is in agreement with that of Chen et al<sup>12</sup>, who found that although thickness of gall bladder wall can be demonstrated very well on pre-op USG, its not very significant predictor of conversion. Abnormal and aberrant anatomy of Calot's D is always associated with problems in dissection. In our study, presence of accessory right hepatic artery was found to be having significant association with conversion. Carmody et al<sup>13</sup> also made the same observation.

We found USG to be very good in detecting hepatomegaly and no. of calculi in gall bladder but its efficacy in detecting intra-abdominal adhesions was not good (only 35%). USG can find out with very high degree of accuracy the thickness of gall bladder wall, diameter of CBD, presence of any stone impacted in Hartman's pouch, peri-cholecystic edema and mobility of gallstones. Also, high resolution USG can detect intra-abdominal adhesions in up to 50% cases. Chen et al<sup>12</sup> have found USG findings to be of help in detecting potentially difficult cases. On the other hand, Carmody et al<sup>13</sup> reported that pre-operative evaluation of gall bladder using USG had little value in screening for technical difficulties.

## CONCLUSIONS

1. Presence of intra-abdominal adhesions, hepatomegaly and multiple gallstones on pre-operative USG are reliably significant preoperative predictors of difficult surgery and conversion.
2. Chances of difficult laparoscopic dissection and conversion can be reliably predicted by proper pre-operative abdominal ultrasonography of the patients.

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## CORRIGENDUM

Article - 'Darusentan : A promising drug for resistant hypertension' published in July –September, 2007 Issue (Vol. 20. No. 3) at page - 245, under **Drug Profile** Names of the authors may be read as 1) Dr. Bhupinder Singh Kalra and 2) Dr. Vandana Tayal, Deptt. of Pharmacology, Maulana Azad Medical College, New Delhi, India.

Omission is highly regretted.

Editor