

**Case report**

**Discharging dengue fever patients with low platelets can be safe**

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**Abstract:**

This is an interesting case of Mr MS who presented with 7 days of fever, loss of appetite and lethargy. Physical examination was unremarkable. Investigation revealed a very low platelet of  $11 \times 10^9/L$  and haematocrit of 46%. He was managed as outpatient and recovered well despite this alarming low platelet level, proving not all dengue fever patients, especially those with no warning signs and clinically well, needs hospital admission.

**Keywords:** Dengue Fever; safe discharge; low platelets

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**Introduction:**

The main problem facing primary care physicians especially those in tertiary centres is many patients may present with undifferentiated illness which may cause diagnostic uncertainty. This case highlights how dengue fever presents in the most atypical manner and the presence of a very low platelet count may not even necessitate admission, even nearing a single digit.

**Case report:**

Mr MS, 40 years old Sabahan man, presented with a 7 days history of fever, body-ache, nausea, lethargy and anorexia. There were no chills or rigors. There were no bleeding tendencies, abdominal pain, headache, vomiting, diarrhoea, difficulty in breathing, rash, joint pain, abdominal distension or decreased urine output. 4 days ago, patient presented to his neighbourhood GP where he was prescribed paracetamol and antibiotics for 3 days with no investigations done.

However, he still feels unwell. He lives in a dengue neighbourhood with no recent fogging activities. He has not travelled overseas or to the jungles or hills recently. He is a chronic smoker with no history of alcohol or illicit drug intake. There was no history of blood transfusion or any high risk behaviour.

Physical examination findings were essentially normal with normal vital signs including a temperature of  $36.5^{\circ}C$  and normal systemic examination. The only abnormality found was in the white patches over

the tongue and buccal mucosa which were thought to be due to oral candidiasis. There was no palpable cervical lymphadenopathy or rash.

FBC stat showed markedly decreased platelet  $11 \times 10^9/L$  (previous **baseline** platelet last taken one year ago was  $272 \times 10^9/L$ )

Haematocrit 46% (baseline was 42% taken in 2008-rise less than 20%)

WBC  $4.2 \times 10^9/L$

Haemoglobin 15.3 g/L -normal

Initial impression was severe dengue fever in view of history of fever, current epidemic of dengue fever and very low platelet count. Case was discussed with medical lecturer who however, suggested that it is unlikely to be dengue fever as patient is otherwise well. Based on history and investigation done, a more likely diagnosis of human immunodeficiency virus (HIV) infection was suggested. The specialist gave a management plan as below:

- a) To screen for cause of immunosuppression – Hepatitis B, Hepatitis C, Syphilis, HIV infection for which informed consent was obtained from the patient and repeat FBC coming morning
- b) To come again stat to A+E if any warning signs of dengue fever

In addition, patient who also not keen for admission. Based on shared decision making, patient was asked to come back coming morning and given oral paracetamol 1gram three times a day and oral metoclopramide 10mg three times a day for 3 days.

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Patient was seen the next day i.e. day 8 of illness. He reported no fever, no more nausea and no warning signs either. His appetite has increased. He is tolerating orally well with good urine output. His vital signs remained stable with a temperature of 36.3°C.

Repeated FBC showed:

Increasing platelet at 26 x 10<sup>9</sup>/L

Haematocrit 46% (stable)

Reducing White blood cell count 3.5 x 10<sup>9</sup>/L

His oral candidiasis also seems to be markedly reduced. At this moment the diagnosis of dengue fever was reaffirm and notified as such. Case was discussed with Infectious disease specialist who decided since the patient is tolerating orally well and has no warning signs of dengue fever, he should continue taking high fluid intake, and return for repeat blood tests coming morning. All these was revealed to the patient who agreed to come back next day with repeat full blood count, Dengue serology IgM, renal profile, liverfunction test and coagulation profile

The next day, he was seen again and was found to be recovering well.

His FBC showed

Increasing platelet at 51 x 10<sup>9</sup>/L

Haematocrit 44% (normal)

WBC 4.3 x 10<sup>9</sup>/L (normal)

In summary, his FBC result was as follow (Table I)

**Table 1. Summary of FBC results**

Day	Platelet (x 10 <sup>9</sup> /L)	White blood cells (x 10 <sup>9</sup> /L)	Hameotocrit (%)
7	11	4.2	46
8	26	3.5	46
9	51	4.3	44

Other blood tests done on Day 9 of illness included normal renal profile, coagulation profile, viral serology and mildly deranged liver function test without any signs of liver toxicity.

His oral candidiasis seems to have resolved. At this moment, patient revealed the findings of oral candidiasis could be mistaken for some food particles that he took earlier. Thereby taking into account the whole clinical picture, the patient was discharged and told to return in a 1 week to review

his dengue serology and to take a stat FBC on the same day. Patient came back 1 week later where his Dengue serology IgM was positive and his platelet had normalised to 345 x10<sup>9</sup>/L and haematocrit stable at 43%. His WBC reading was 6x10<sup>9</sup>/L . Therefore, he was discharged from our follow up with advice to make sure his house and surrounding area remain free of potential dengue breeding sites.

### **Discussion**

Perhaps in this case, the diagnosis of dengue fever shouldn't have been ruled out too early as dengue fever is all too common now what with massive construction and uncivilised rubbish dumping that still exists especially in the Klang Valley. Platelet can still be low at Day 7 of illness and make take up to weeks to recover<sup>1</sup>. Also, it is more fatal to miss a dengue fever, a great masquerade, rather than a chronic case of HIV infection as the patient with dengue fever can rapidly deteriorate.

Prevention is better than cure. Malaysian public should re-educate on proper rubbish disposal and avoiding keeping stagnant water, which remains a challenge in the current water cuts era. There are still residential areas namely flats remaining red spots for fatal dengue fever cases for years, especially in the Klang Valley. Organising more frequent gotong royong and stricter law enforcement may help in this eradicating this menace.

The absence of vomiting, headache, diarrhoea and back breaking body-ache made reaching the diagnosis of dengue fever in Mr.MS case an ardent task due its' atypical presentation. A case report done in 2010 in India reported two atypical way dengue infection presented<sup>2</sup>:

- a) bilateral pleural effusion and gallbladder oedema
  - b) intraocular haemorrhage resulting in permanent loss of vision, adult respiratory distress syndrome requiring non-invasive ventilation, and myocarditis.
- Thankfully, both these patients survived. This shows how serious and atypical a dengue infection can be. It can present as we see, in a most atypical way. Even more challenging will the presence of another comorbidity e.g heart failure or end stage renal failure in which the treating physician need to balance between giving and restricting fluids<sup>3</sup>.

The more serious counterpart of dengue fever is

dengue haemorrhagic fever which will need more aggressive treatment.<sup>4,5,6</sup> Recent advances had allowed the use of NS-1 antigen as a confirmatory test for dengue infection.<sup>7</sup> A study among university students in Malaysia shows that the level of knowledge, attitude and practice of dengue was relatively high.<sup>8</sup> Hematocrit remains the key parameters to detect dengue haemorrhagic fever with increased propensity to develop dengue shock syndrome.<sup>9</sup>

In summary, this is an interesting case of Mr MS that presented with only a few symptoms of dengue fever and very low platelets which proved to be non-fatal and didn't necessitate admission.

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**Writing and submitting manuscript: nkd**

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