

## 說明 21

### 陣發性冷性血紅蛋白尿之發生率與診斷

陣發性冷性血紅蛋白尿 (Paroxysmal cold hemoglobinuria ; PCH)	
發生率	PCH 為罕見疾病，文獻上缺乏相關統計資料。PCH 幾乎只在幼兒被診斷，佔小兒免疫性溶血性貧血約 1-5%。
診斷	此疾病透過臨床表現及檢驗數值診斷。PCH 的病人患有血管內溶血的情形，DAT 檢驗在補體方面為陽性，但 IgG 為陰性。檢驗血液中的 Donath-Landsteiner 抗體為陽性。此抗體的作用為在低溫時結合紅血球，並促成補體共同結合。當溫度升高至體溫時，此抗體即脫離，促成抗體造成的血管內溶血作用，而有血紅素尿的表現。

## 說明 22

### 溶血性尿毒症之發生率與診斷

溶血性尿毒症 (Hemolytic uremic syndrome ; HUS)	
發生率	每十萬年人約二到三例病例，大多為因 <i>E. Coli</i> 的 Shiga Toxin 導致的後天性 HUS。
診斷	若病人臨床上呈現出 MAHA (Microangiopathic hemolytic anemia)、血小板低下以及急性腎損傷，即可診斷病人罹患 HUS。其中 MAHA 的診斷標準為 Hb<8 g/dL、Coombs' test 陰性、在周邊血液發現有 Schistocyte 或 Helmet cell。

**說明 23**術前貧血狀態下進行心臟手術與相關風險，包括死亡率、併發症發生率等探討文獻舉例如下表：

Reference	Definition	Main outcome
Risk associated with preoperative anemia in cardiac surgery. A multi-center cohort study. <i>Circulation</i> 2008, Karkouti K et al 117 : 478–484.	Preoperative hemoglobin concentration <12.5 g/dL	Preoperative anemia is independently associated with adverse outcomes, including in-hospital death, stroke, or acute kidney injury after cardiac surgery.
Preoperative hemoglobin level as predictor of survival after coronary artery bypass grafting. A comparison with the matched population. <i>Circulation</i> 2009, Van Straten AHM et al , 120 :	Preoperative hemoglobin <13 g/dL for men and <12 g/dL for women.	A lower preoperative hemoglobin level is an independent predictor of late mortality in patients undergoing CABG, whereas anemia is a risk factor for early and late mortality.

118–125.		
<p>Is preoperative anemia a risk marker for in-hospital mortality and morbidity after valve replacement? Eur Heart J 2006, Cladellas M et al, 27 : 1093–1099.</p>	<p>Preoperative hemoglobin concentration &lt;12 g/dL</p>	<p>In patients undergoing elective valve replacement pre-operative HB &lt;12 g/dL is a risk marker of in-hospital mortality and serious adverse outcomes, such as in-hospital mortality and morbidities such as heart failure, myocardial infraction, reoperation, neurological complication, acute kidney failure, and reoperation for bleeding.</p>
<p>Impact of preoperative anemia on outcomes in adult cardiac surgery : A propensity-matched analysis. Ann Thorac Surg 2012, Ranucci M et al, 94 : 1134–1142.</p>	<p>Preoperative hematocrit &lt; 30%</p>	<p>Moderate-to-severe preoperative anemia is a risk factor for major morbidity, defined in presence of at least one of the following conditions: surgical revision, mechanical ventilation greater than 48 hours, stroke, acute kidney injury, and bloodstream infection, and operative mortality in adult cardiac operations.</p>
<p>Interrelationship of preoperative anemia, intraoperative anemia, and red blood cell transfusion as potentially modifiable risk factors for acute kidney injury in cardiac surgery : A Historical multicentre Cohort Study. Can J Anaesth 2015, Karkouti K et al.</p>	<ol style="list-style-type: none"> <li>1. Preoperative anemia hemoglobin &lt; 13 g/dL in males and &lt; 12 g/dL in females</li> <li>2. Intraoperative anemia: hemoglobin &lt; 8 g/dL during CPB.</li> </ol>	<p>Preoperative anemia, intraoperative anemia, and RBC transfusion on the day of surgery are interrelated risk factors for AKI after cardiac surgery.</p>

<p>Preoperative anemia increases mortality and postoperative morbidity after cardiac surgery. J Cardiothorac Surg 2014 ; Miceli A et al.</p>	<p>Preoperative anemia hemoglobin &lt; 13 g/dL in males and &lt; 12 g/dL in females</p>	<p>Preoperative anemia is associated with an increased risk of mortality and postoperative morbidity</p>
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## 說明 24

### EPO

#### 1. 代表藥物：EPREX injection 10,000 IU/mL

健保適應症：

- (1) 治療與慢性腎臟功能失調有關的貧血症狀或因此而需要輸血之患者。
- (2) 治療與癌症化學治療有關的症狀性貧血。

#### 2. 代表藥物：Recormon solution for injection in pre-filled syringe 5,000IU

健保適應症：

- (1) 治療慢性腎衰竭且伴隨症狀性貧血病人。
- (2) 治療與癌症化學治療有關的症狀性貧血。
- (3) 治療正在接受腫瘤治療之多發性骨髓瘤 (Multiple myeloma)、低度非何杰金氏淋巴瘤 (Low grade non-Hodgkin's lymphoma) 或慢性淋巴性白血病 (Chronic lymphocytic leukemia) 成人患者的症狀性貧血。

#### 3. 代表藥物：NESP Injection plastic syringe 180 µg/0.5 mL

健保適應症：

- (1) 治療與慢性腎臟功能失調有關的貧血症狀或因此而需要輸血的患者。
- (2) 治療與癌症化學治療有關的症狀性貧血。

#### 4. 代表藥物：Mircera solution for injection in pre-filled syringe 75 µg /0.3 mL

健保適應症：

- (1) 治療慢性腎病所引起的症狀性貧血。
- (2) Mircera 尚未核准於治療因癌症化學療法引起的貧血。

## 說明 25

ACTA-PORT 線上計分網址：

[https://qxmd.com/calculate/calculator\\_436/PORT-score-for-PeriOperative-Risk-of-blood-Transfusion-in-cardiac-surgery-by-ACTA](https://qxmd.com/calculate/calculator_436/PORT-score-for-PeriOperative-Risk-of-blood-Transfusion-in-cardiac-surgery-by-ACTA)