y edemas maleolares gravitativos, junto a síncopes desencadenados por maniobras de Valsalva. En la exploración física destacaba la presencia de inurgitación jugular, pulso paradójico y hepatomegalia. Un ecocardiograma transtorácico evidenció la presencia de una masa retrosternal que comprimía la pared anterior del ventrículo derecho. La resonancia magnética cardíaca y la tomografía axial computarizada confirmaron la presencia de una masa de intensidad heterogénea, que sugeria densidad grasa (fig. 1). En los informes quirúrgicos se refería la interposición de grasa mediastínica debido a laceración del ventrículo derecho. Se realizó tratamiento quirúrgico que comprobó la presencia de una masa que correspondía a grasa degenerada, que fue resecada en su totalidad, con descompresión cardíaca. El curso postoperatorio cursó sin complicaciones. Seis meses después de la intervención la paciente permanece asintomática.

La pared libre del ventrículo derecho es extremadamente friable, especialmente cuando el miocardio está tapizado por grasa epicárdica, circunstancia mucho más frecuente en edades avanzadas. En estos casos, para evitar el desarrollo de laceraciones cardíacas las maniobras de manipulación cardíaca durante cualquier cirugía deben de realizarse con suma cuidado\textsuperscript{1,2}. Se han descrito diversas técnicas quirúrgicas de reparación miocárdica a seguir sobre todo en pacientes de edad avanzada.

Bibliografía


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An electronic decision support system for the management of patients at risk of arteriosclerotic cardiovascular disease

Un sistema de apoyo a la decisión electrónica para la gestión de pacientes con riesgo de enfermedad cardiovascular arteriosclerótica

Dear Editor,

In the field of prevention of atherosclerotic cardiovascular disease there is a significant gap between the recommendations of clinical practice guidelines (CPGs) and their achievement in real clinical practice. In a recent European cross-sectional study in diabetic patients, 52.5%, 37.4% and 80% had a poor control of low density lipoprotein cholesterol (LDLc), glycosilated hemoglobin (HbA1c), and blood pressure (BP), respectively\textsuperscript{1}. Similarly, 45% of Spanish patients with a history of coronary revascularization had inadequate levels of LDLc\textsuperscript{2}. In a lower risk scenario, only 15% of patients with hypertension showed a controlled office and ambulatory blood pressure\textsuperscript{3}. The large amount of information, the different CPGs approaches and their constant updating, and the huge number of variables to consider when facing cardiovascular risk of an individual patient, make it difficult to achieve the recommended treatment targets. In this setting, decision support systems (DSS) could improve patient-centered application of cardiovascular risk CPGs recommendations although few studies have tested this hypothesis.

We have designed a multiplatform decision support system (Arteriotarget) for physicians involved in cardiovascular care. Arteriotarget has been designed in accordance with the European CPGs currently at work\textsuperscript{1}. It collects relevant information from individual patients and crosses it with the recommendations of CPGs in order to provide personalized recommendations for each subject.

Using the data introduced by the physician, Arterio-target shows the estimated cardiovascular risk and the
Figure 1  (A) Arteriotarget interface in Spanish. Two fields are shown: Identification of the patient (identificación) and vascular risk factors (factores de riesgo vascular). The patient identification field shows the national identity card number (DNI), name (nombre), and family name (apellidos). The vascular risk factor field shows the birth date (año de nacimiento, dd/mm/yy, 01/01/1954), sex (sexo), weight (peso), height (altura) and body mass index (IMC). The right column fields are for total cholesterol, HDL, LDL systolic and diastolic blood pressure values. These fields are filled out with some imaginary values. In addition, this field shows several yes/no items to be clicked such as tobacco use (tabaquismo), diabetes mellitus, antihypertensive therapy (tratamiento antihipertensivo), and severe chronic kidney disease. At the bottom, four yes/no questions should be answered to assess cardiovascular risk and to obtain the desired target levels for LDL, systolic and diastolic blood pressures: Other risk factors (otros factores de riesgo), organ damage (lesión de órgano diana), established cardiovascular disease (enfermedad cardiovascular establecida) and other factors that may modify treatment objectives (factores modificadores de los objetivos del tratamiento), including functional disability, comorbidities, allergies, etc. Clicking yes (si), additional data can be obtained in dropdown menus. (B) Output messages. Cardiovascular risk stratification (Prónóstico de riesgo cardiovascular a los 10 años) and treatment targets for LDL cholesterol (LDLc) and blood pressure (Presión arterial). LDL section: a horizontal bar represents the current levels of LDLc and the recommended target. Below it the percentage reduction necessary and the recommended intervention strategies to achieve this target are indicated. Arterial pressure section: two horizontal bars represent the current levels of systolic (PAS) and diastolic blood pressure (PAD) and the recommended targets. Below it the target and the recommended intervention strategy are indicated. More information about lifestyle interventions, pharmacological treatment and recommended target of LDLc and blood pressure is also available clicking these buttons (Estilo de vida, Tratamiento y Más info).

recommended therapeutic objectives for LDLc, BP and HbA1c (Fig. 1). Following the recommendations of the European Guidelines on Cardiovascular Disease Prevention 2012,5 Arteriotarget calculates cardiovascular risk using the SCORE charts5 for patients aged 40–65 years-old.6 Patients with diabetes mellitus (DM) with no additional risk factors or chronic kidney disease (CKD) with estimated glomerular filtration rate (eGFR) between 30 and 60 ml/min/m², are considered to be at high cardiovascular risk. In addition, patients with overt cardiovascular disease, DM with additional risk factors or organ damage, and patients with CKD with eGFR <30 ml/min/m² are considered at very high cardiovascular risk. Recommended therapeutic goals are extracted from European CPGs related to cardiovascular disease prevention.4 Arteriotarget also allows to consult treatment options (lifestyle recommendations, pharmacological options), original information from the CPGs and references of the studies on which recommendations are based. The system also includes a tool for generating understandable and individualized instructions to the patient, with important actions regarding diet and physical activity (always based on CPGs) that can be printed to facilitate the information to the patient.

To assess the validity of Arteriotarget recommendations (defined as both the concordance of cardiovascular risk stratification and the recommended targets between CPGs and Arteriotarget) this electronic DSS has been tested in patients followed at the Metabolic-Vascular Unit of Hospital Universitario La Paz (Madrid) between March and April of 2014. Individuals younger than 40 or older than 65 years were excluded due to the age limits of the SCORE risk Charts.5 Data used for risk stratification and recommended objectives with Arteriotarget and guidelines were independently collected by two investigators and then pooled. Two researchers calculated cardiovascular risk both manually and by the Arteriotarget system to find out possible discrepancies.
Table 1 Cardiovascular risk stratification and recommended objectives obtained from clinical practice guidelines (manually) and the electronic decision support system (Arteriotarget) in 77 consecutive patients.

<table>
<thead>
<tr>
<th>Risk stratification</th>
<th>According to CPGs (manual)</th>
<th>Arteriotarget</th>
<th>Concordance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk</td>
<td>15</td>
<td>15</td>
<td>15/15</td>
</tr>
<tr>
<td>Intermediate risk</td>
<td>32</td>
<td>32</td>
<td>32/32</td>
</tr>
<tr>
<td>High risk</td>
<td>1</td>
<td>1</td>
<td>1/1</td>
</tr>
<tr>
<td>Very high risk</td>
<td>29</td>
<td>29</td>
<td>29/29</td>
</tr>
<tr>
<td>Total</td>
<td>77</td>
<td>77</td>
<td>77/77</td>
</tr>
</tbody>
</table>

Recommended objectives
- cLDL: <160 mg/dL (5%)
- <115 mg/dL (36%)
- <100 mg/dL (48%)
- <70 mg/dL (62%)
- Blood pressure: <140/90 mmHg (95%)
- <140/85 mmHg (28/28)

Diabetes HbA1c <7% (15/15)

Total 29/29

Note: a) Case to case concordance. b) Only for diabetic patients.

A total of 77 consecutive patients (mean age 55 years; 48 (62%) men) were included in this validation study. This sample size allowed detecting an expected discordance rate <5%, with a 95% confidence level and a 5% precision rate. Twenty-eight (36%) patients were diabetic, 9 (12%) had overt cardiovascular disease, and 4 (5%) chronic kidney disease. The cardiovascular risk stratification obtained by Arteriotarget fully agreed with that obtained when using CPGs recommendations and SCORE risk charts (Table 1). Likewise, the recommendations of therapeutic targets of HbA1c, cLDL and BP offered by Arteriotarget fully agreed with objectives recommended by CPGs (Table 1). Manual estimation of cardiovascular risk based on SCORE charts rendered two errors (discrepancies between the two investigators) while no inconsistencies were detected in the data collected from Arteriotarget.

These data show that Arteriotarget offers valid stratification of cardiovascular risk and recommendations of desirable therapeutic targets in patients at cardiovascular risk. Moreover, our results suggest that besides its accuracy, Arteriotarget may avoid human errors in cardiovascular risk estimation that may occur when SCORE charts are used manually.

Bibliografía


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Rabdomiólisis y fracaso renal agudo asociado a infección por el virus de la gripe A

Rhabdomyolysis and acute renal failure associated with influenza virus type A infection

La gripe está causada por Orthomyxovirus de los tipos A y B, que presentan con el tiempo modificaciones de intensidad variable en su estructura antigénica. La diferente expresividad clínica de la gripe está relacionada con la exposición anterior, salvoje o vacunal, a antígenos del virus de la gripe 1. En el hombre causa un cuadro agudo, autolimitado caracterizado por síntomas respiratorios y sistémicos. Los pacientes con gripe pueden presentar mialgias como consecuencia de la afectación muscular. En niños se ha descrito un cuadro denominado «miositis benigna de la infancia» o «mialgia cruris epidémica» que cursa con rabdomiólisis, elevación de la enzima creatincinasa (CK) y escasa mioglobinuria 1.