

Medicina periodontal (III). Enfermedad cardiovascular y Síndrome Metabólico

Periodontal medicine (III). Cardiovascular disease and Metabolic Syndrom

A. BASCONES -MARTÍNEZ*
J.BASCONES-ILUNDAIN**
C.BASCONES-ILUNDAIN***

A. Bascones-Martínez, J. Bascones-Ilundain, C. Bascones-Ilundain
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RESUMEN

Las condiciones orales como gingivitis y periodontitis crónica están muy extendidas entre las más prevalentes de las enfermedades microbianas y está claro que las infecciones orales pueden representar un factor de riesgo para las enfermedades sistémicas por lo que su control es esencial en el manejo de estas entidades(en especial infección periodontal con enfermedad cardiovascular. Esta es una de las entidades más frecuentes en la mortalidad junto con la arterioesclerosis, siendo multifactorial. Hay importantes referencias a esta relación. La cavidad oral es una fuente de infección por lo que es importante tratar de minimizar esta situación

PALABRAS CLAVE: Síndrome metabólico, enfermedad cardiovascular.

SUMMARY

Oral conditions such as gingivitis and chronic periodontitis are found worldwide and are among the most prevalent microbial diseases of mankind. It is clear that oral infection may represent a significant risk-factor for systemic diseases, and hence the control of oral disease is essential in the prevention and management of these systemic condition for the interaction of oral disease (more specifically, periodontal infections) with cardiovascular disease. Cardiovascular disease is a major cause of death worldwide, with atherosclerosis as the underlying aetiology in the vast majority of case It is concluded that although atherosclerotic cardiovascular disease is almost certainly a multifactorial disease, there is now strong evidence that infection and inflammation are important risk factors. As the oral cavity is one potential source of infection, it is wise to try to ensure that any oral disease is minimised.

KEY WORDS: Metabolic syndrome, cardiovascular disease

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ENFERMEDAD CARDIOVASCULAR

DEFINICIÓN: Las enfermedades cardiovasculares (ECV) son un grupo de enfermedades progresivas y crónicas, caracterizadas por la formación de atero-
ma en el interior de las arterias grandes y medianas,

por tanto es sinónimo del término de arteriosclerosis. Esto produce la reducción de la luz de las arterias y predispone a la trombosis, y a eventos obstructivos e isquémicos. Estos eventos pueden presentarse de manera crónica o precipitar un evento oclusivo súbito (presentación aguda).

* Catedrático de Medicina Bucal y Periodoncia. Departamento de Medicina y Cirugía Bucofacial. Facultad de Odontología. U.C.M.
** Prof. Ayudante Doctor Departamento de odontología Conservadora.
*** Prof. Asociado departamento de Medicina y Cirugía Bucal.

La evidencia disponible sugiere que el rol del status periodontal en la prevalencia de bacteriemias después de la masticación, cepillado y raspado presenta una alta prevalencia/incidencia y una alta biodiversidad, incluyendo a patógenos periodontales en pacientes con periodontitis, y en contraposición a pacientes sanos o con gingivitis. La asociación entre la prevalencia de bacteriemia y los índices de placa/gingival fue demostrada en el año 2013 por Tomás y cols (Tomás et al., 2012).

Por otro lado, evaluando la presencia de antígenos bacterianos y la señalización molecular en las lesiones ateromatosas, al menos 2 estudios reportan una correlación entre el status periodontal (tanto moderada versus severa periodontitis, como sanos versus pacientes con periodontitis), y la presencia de patógenos periodontales. Al menos 8 estudios describen la correlación entre la microbiota subgingival y los patógenos detectados en las lesiones vasculares (Tonetti et al., 2013).

En los últimos 23 años, un importante número de estudios clínicos, mayoritariamente estudios transversales y casos control, han demostrado la asociación positiva entre la enfermedad periodontal y la enfermedad cardiovascular. En los últimos 8 años, diversas revisiones sistemáticas y narrativas han reunido y sintetizado la evidencia científica sobre esta asociación (Bahekar et al., 2007; Beck & Offenbacher, 2005; Humphrey et al., 2008; Meurman et al., 2004; Mustapha et al., 2007; Dietrich et al., 2013).

Dietrich y cols (Dietrich et al., 2013) realizaron una revisión sistemática donde evaluaron toda la evidencia epidemiológica disponible de la asociación entre la enfermedad periodontal y la enfermedad cardiovascular. En ella se incluyeron 12 estudios, entre los que 6 trataban sobre enfermedades coronarias, 3 sobre accidente cerebrovascular, 2 sobre la mortalidad de las dos enfermedades anteriormente expuestas, y uno sobre la enfermedad arterial periférica. Todos a excepción de uno, mostraron una asociación positiva entre las diferentes medidas de enfermedad periodontal y la incidencia de enfermedad cardiovascular, al menos en subgrupos específicos. La asociación fue mayor en pacientes adultos jóvenes, no existiendo evidencia de la asociación en pacientes mayores de 65 años. Sólo un estudio evaluó la asociación entre la enfermedad periodontal y los eventos cardiovasculares secundarios, lo cual resulta insuficiente evidencia para establecer una asociación fuerte. Sin embargo, este estudio no realizó metaanálisis como dos revisiones que se exponen a continuación.

No obstante, es importante reconocer las limitaciones de los estudios realizados, que valoran esta asociación. Una de los puntos débiles identificados en la evidencia clínica disponible es la exposición a errores de clasificación que lleva a una subestimación de los verdaderos factores de riesgo asociados con la enfermedad periodontal. Esto limitaría significativamente la evidencia disponible, ya que muy pocos estudios evalúan adecuadamente el grado de exposición (severidad de la enfermedad periodontal), y en la mayoría de ellos el tamaño muestral era pequeño además de que estos investigadores no valoraron adecuadamente el número de drop-out o no actualizaron regularmente el grado de exposición a lo largo del estudio. Otra limitación es el incompleto ajuste de algunos estudios por los factores de riesgo Framingham. A pesar de ello, Humphrey y cols., realizaron un subgrupo de análisis de la calidad de los estudios con el ajuste de estos factores anteriormente mencionados, identificando de esta manera una asociación independiente entre la enfermedad periodontal y CHD. También otra limitación es el ajuste de la asociación a un factor de confusión como es el tabaco (Hujoel et al., 2002).

Durante muchos años esta asociación fue un tema de gran controversia precisándose estudios longitudinales con medidas estandarizadas de enfermedad periodontal y un cuidadoso seguimiento con el ajuste de factores de confusión conocidos con el fin de esclarecer el "link" entre la ECV y la enfermedad periodontal. Sin embargo, en el International Workshop de 2013 (Tonetti et al., 2013), se establece definitivamente la periodontitis como factor de riesgo de la ECV, así como los pasos a seguir para realizar estudios en este ámbito y revisión de su plausibilidad biológica.

SÍNDROME METABÓLICO

DEFINICIÓN: El Síndrome Metabólico (SMet) es un cluster de múltiples entidades diferentes. El estrés oxidativo parece tener el mayor rol en la patogénesis de todos los componentes que forman parte de este síndrome. El síndrome metabólico es una patología largamente extendida en países occidentales. Sus criterios diagnósticos han sido recientemente definidos, aunque continúan siendo ambiguos debido a que estas enfermedades, entre las que están obesidad, hiperglucemia, hiperinsulinemia, y dislipidemia, son consideradas serios factores de riesgo de ECV (Reaven, 1998). Debido a que el SMet está caracterizado por numerosos factores, es bastante difícil establecer

un correcto diagnóstico y un tratamiento adecuado.

Inicialmente, el SMet fue definido como el Síndrome X (Reaven, 1998), para después denominarse “cuarteto mortal”, debido a la sinergia entre sus componentes como son la hiperinsulinemia, hipertensión, hiperglucemia, y obesidad visceral. Más tarde, se pasó a definir Síndrome de Resistencia a la insulina puesto que algunos autores creían que la resistencia a la insulina era el factor predominante que predisponía a la aparición de los síntomas.

CLÍNICA

Actualmente, el SMet es objeto de clara controversia, debido a las numerosas definiciones que han sido propuestas para definir dicho síndrome, siendo los criterios propuestos por el National Cholesterol Education Program Adult Treatment Panel III los más usados. No obstante, la AHA define el SMet como un síndrome caracterizado por un grupo de factores de riesgo metabólicos en un individuo (Marchetti et al., 2012). Entre estos factores están los siguientes:

- **Obesidad abdominal:** Acumulación excesiva de tejido graso alrededor del abdomen.
- **Dislipidemia aterogénica:** Triglicéridos altos, HDL bajo, y alto LDL que provoca la formación de placa ateromatosas en la pared de arterias.
- **Elevada presión arterial.**
- **Resistencia a la insulina o intolerancia a la glucosa:** El cuerpo no es capaz de usar la insulina o la glucosa en sangre.
- **Estado protrombótico:** Fibrinógeno alto o inhibidor del activador de plasminógeno-1 en sangre.
- **Estado proinflamatorio:** Elevado CRP en sangre.

La AHA y el National Heart, Lung and Blood Institute (NHLBI) recomienda el diagnóstico de SMet con la presencia de 3 o más de los siguientes componentes (Grundy et al., 2005):

- Circunferencia en cintura elevada:
- Hombres: igual o mayor que 102 cm.
- Mujeres: igual o mayor de 88 cm.
- Triglicéridos elevados: igual o mayor de 150 mg/dl.

- HDL reducido (“colesterol bueno”):
- Hombres menos de 40 mg/dl.
- Mujeres: menos de 50 mg/dl.
- Presión arterial elevada: igual o mayor de 130/85 mm Hg.
- Glucosa en ayunas elevada: igual o mayor de 100 mg/dl.

La resistencia a la insulina es una condición en la que la cantidad normal de insulina es insuficiente para obtener una respuesta adecuada de los tejidos adiposo y muscular así como de las células hepáticas, dando lugar a una hiperglucemia severa con efecto deletéreo sistémico, como son las bajas defensas intracelulares antioxidantes (Di Filippo et al., 2007; Tilg & Moschen, 2008; Bruce et al., 2003; Koyama et al., 2005).

En este punto, está claro que el denominador común entre el grupo de patologías que componen el SMet es el estrés oxidativo y la consecuente hiperinflamación que prima en la cadena de interacciones y que da lugar a graves complicaciones sistémicas como es la ECV, o complicaciones locales como es la periodontitis. El SMet permite un estado pro-oxidativo en los tejidos periodontales, alterando los mecanismos de defensa antioxidantes. Esto afecta a la respuesta tisular con el ataque bacteriano. Por el contrario, la periodontitis, siendo una gran fuente de marcadores oxidativos, promueve el comienzo de la resistencia a la insulina, y el círculo vicioso característico del SMet (Chapple et al., 2007).

Solamente se ha realizado un estudio longitudinal prospectivo que evalúe la asociación entre SMet y enfermedad periodontal. Morita y cols. (T. Morita et al., 2010) realizan un estudio de cohortes, en una muestra de 1.023 pacientes con un seguimiento a 4 años. El OR fue de 1,6 con un IC al 95% (1,1-2,2). Con ello determinan que la presencia de bolsas periodontales está asociado con la conversión positiva de los componentes de SMet, considerando finalmente que la prevención de la enfermedad periodontal podría prevenir el SMet.

Sin embargo, todas estas investigaciones presentan una serie de limitaciones debido a la falta de consenso tanto en la definición de periodontitis (Page & Eke, 2007; Tonetti et al., 2005) como en la definición de síndrome metabólico (Grundy et al., 2005), la cual parece estar aun en controversia. Ello da lugar a muestras heterogéneas, dispersas y no representativas de la población, alterando de esta manera los resultados y

dificultando la investigación en este campo de la medicina periodontal. Además, según un estudio realizado por Futura y cols. (Furuta et al., 2013), existe unas diferencias entre sexos, que hay que tener en cuenta a la hora de analizar y estratificar los datos, puesto que las mujeres presentan una mayor prevalencia que los hombres.

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