Letters to the Editor

*Gemella haemolysans: a rare and unusual cause of infective endocarditis*

Sir,

Bacterial endocarditis is a serious complication of cardiac disease with a mortality of between 10% and 20%.1 Mitral valve prolapse has been reported as the underlying cardiac abnormality in 10% of cases.2 We report a case of endocarditis caused by *Gemella haemolysans* in a 74 year old man with mitral valve prolapse. We believe this to be the first case reported in the United Kingdom.

A 74 year old man diagnosed 10 years previously as having mitral regurgitation secondary to mitral valve prolapse was admitted with a 2-month history of non-specific myalgia and headaches. For 2 weeks he had had night sweats and rigors. He had not undergone any invasive procedures. On examination his temperature was 38.5°C. There was a faint macular rash on both legs and signs of mitral regurgitation. Echocardiography showed prolapse of the posterior leaflet of the mitral valve with a small mass attached suggestive of a vegetation. A Gram-variable coccus was isolated from all 6 blood cultures and endocarditis of the mitral valve was diagnosed.

Identification of the isolate was attempted using the API 20 Strep system and this suggested *Gemella haemolysans* or Streptococcus morbillorum. It was confirmed as *G. haemolysans* by the National Collection of Type Cultures, Colindale. The organism was sensitive to penicillin (minimal inhibitory and bactericidal concentrations of 0.015 mg/l and 0.03 mg/l respectively) and he was given intravenous benzyl penicillin and intravenous gentamicin daily. He became apyrexial within 48 hours and remained so. After 2 weeks the penicillin was replaced by oral amoxycillin for 4 further weeks and the gentamicin given intramuscularly for 2 further weeks. Following cessation of antibiotics he continued to remain apyrexial, with negative blood cultures.

Mitral valve prolapse is well recognised as predisposing to infective endocarditis. In this case the organism responsible for the infection, *G. haemolysans*, is most unusual. The organism is considered to be a commensal of the upper respiratory tract. The exact taxonomy of this species is disputed but *G. haemolysans* is related to the Streptococci and is biochemically similar to *Streptococcus morbillorum*, an organism which has also been reported as a cause of endocarditis.4 Infections caused by *G. haemolysans* were unknown until 1978–9 when three cases of endocarditis were reported in France.5 There have been further reports of Gemella infections from France, including two cases of septicaemia and a further case of endocarditis.6 A case of post-neurosurgical meningitis caused by *G. haemolysans* was reported from Oxford in 1985.7 The strains isolated in all of the reported cases were highly sensitive to penicillin and synergy between penicillin and gentamicin has been demonstrated.8 In this case the infection rapidly responded to antibiotic therapy and the patient continues to remain well with no deterioration of his mitral valve disease.

Acknowledgement

We are grateful to Mr H. Malnick of the National Collection of Type Cultures, Public Health Laboratory Service, Colindale, for the confirmation of the identity of this organism.

M.J. Brack
P.G. Avery
P.J.B. Hubner
R.A. Swann

Regional Cardiothoracic Unit,
Groby Road Hospital,
Groby Road,
Leicester LE3 9QE and

1Department of Microbiology
and Public Health Laboratory,
Leicester Royal Infirmary,
Infirmary Road,
Leicester, UK.

References


Chlorhexidine-induced gastritis

Sir,

Acute gastritis is caused by a variety of ingestaents and systemic conditions which have in common either a direct action on the surface epithelial cells or an indirect action on the mucous membrane through a reduction in blood flow and inhibition of the normal cellular turnover.1 We report a case of gastritis induced by self ingestion of chlorhexidine gluconate 4% (Hydrax). To our knowledge, this has not previously been reported.

A 72 year old man was admitted to St Charles' Hospital
for investigation of palpitations and postural hypoten-
son. He also suffered from Parkinson’s disease but was
well controlled on treatment.

The positive findings on examination included the
classical features of Parkinson’s disease and a postural
drop in blood pressure. The latter quickly resolved on
withdrawal of his diuretic therapy. Two days after
admission he started vomiting, initially four times on
one day and then intermittently over the following 10 days.
This usually occurred in the mornings. He was not
receiving any new medication.

Fibroptic gastroscopy showed multiple erosions in the
lower part of his stomach and first part of the duodenum.
His oesophagus appeared normal. Histology confirmed
an active atrophic gastritis with many helicobacter-like
organisms present. A full blood count, biochemical screen
and liver function tests were all normal. It transpired that
every morning he washed himself on the ward with
Hydrex. However, he also used this preparation as a
mouth wash and then swallowed it. He said that he felt
nauseated each time he did this.

He was advised to discontinue this practice and was
given ranitidine. He made a full recovery with no further
vomiting and repeat endoscopy after 6 weeks revealed
resolution of his mucosal erosions with some mild
residual antral gastritis.

Chlorhexidine is a bisbiguanide disinfectant which is
effective against a wide range of vegetative Gram-positive
and Gram-negative bacteria. It is most active at a neutral
or slightly acidic pH. Hydrex is a 4% solution of
chlorhexidine gluconate in detergent that is used in
pre-operative skin preparation and hand washing.2 Skin
sensitivity, transient taste disturbance and oral de-
quamation have occasionally been reported with a variety
of preparations of chlorhexidine.

There has been one report of an acute hepatitis and
liver necrosis following ingestion of chlorhexidine glu-
conate in a suicide attempt.3 Because it is irritant, it is
recommended that it should not be used on the brain,
meninges, eyes, middle ear or other sensitive tissues.

There have been no previous reports of chlorhexidine-
induced gastritis. This is presumably because the taste
and consistency of concentrated preparations of chlor-
hexidine render them sufficiently unpalatable to dis-
courage ingestion in the majority of cases. We have
informed the manufacturers of Hydrex of our unusual
observation in the hope that a recurrence of this problem
can be avoided by providing a more visible written
warning on the container.

S. Roche
R. Chinn
S. Webb
Department of Medicine for the Elderly,
St Charles’ Hospital,
Exmoor Street,
London W10, UK.

References
1. Shearman, D.J.C. & Finlayson, N.D. (ed.) Gastritis. In:
Diseases of the Gastrointestinal Tract and Liver. Churchill
2. Reynolds, J.E. (ed.) Marinidale. The Extra Pharmacopoeia,
957.
3. Massano, G., Ciocatto, E., Rosabianco, C., Vercelli, D., Actis,
G.C. & Verme, G. Striking aminotransferase rise after chlor-

The cardiovascular effects of beta adrenergic agonist
Drugs administered by nebulization

Sir,
I read with interest the report of Flatt et al.1 reporting the
cardiovascular effects of inhaled bronchodilators. They
clearly demonstrate the greater cardiovascular effects of
fenoterol 5 mg compared with equal doses of salbutamol
and terbutaline. They conclude that this is due to ‘greater
β1 adrenergic receptor stimulation following fenoterol’.
However, I think a more satisfactory explanation of their
findings is that fenoterol has a greater systemic bio-
availability than salbutamol or terbutaline (i.e. more
fenoterol is absorbed).

The authors have assumed that the tachycardia and
positive inotropic effects of the drugs are primarily due to
cardiac β1 adrenergic receptor stimulation. In studies of
human subjects and tissues, the chronotropic and ino-
tropic effects of salbutamol have been shown to be purely
due to cardiac β2 adrenergic receptor stimulation.2,3 Con-
sequently, all the cardiovascular effects in the study of Flatt
et al. could be attributable to cardiac β2 adrenergic receptor
stimulation and the greater responses seen after fenoterol
could be due to greater absorption. Conclusive evidence
of greater absorption of fenoterol comes from a previous
study published by this group of workers,4 where fen-
terol by metered dose inhaler produced more hypokala-
emia than equal doses of salbutamol. Hypokalaemia
induced by β-agonists is purely due to β2 adrenergic receptor
stimulation.5

The references cited by Flatt et al. to show β1-mediated
effects of fenoterol also assume that chronotropic and
inotropic effects are not mediated by β2 adrenergic receptors
whereas evidence exists to disprove that assumption in the
species studied, i.e. in man2,6 and guinea pigs.7

Although the findings of differential cardiovascular
effects of equal doses of these commonly used broncho-
dilators are important I think it should be recognized that
probably all the cardiovascular effects can be attributed
to β2 adrenergic receptor stimulation. Consequently in order
to avert these important side effects of bronchodilator
treatment it would not be necessary to develop an agent with ‘greater β2 selectivity’ but to develop a β2 agonist
which is less well absorbed.

J.A. Hall
Papworth Hospital,
Papworth Everard,
Cambridge CB3 8RE, UK.

References
1. Flatt, A., Crane, J., Purdie, G., Kwong, T., Beasley, R. &
Burgess, C. The cardiovascular effects of beta adrenergic
agonist drugs administered by nebulisation. Postgrad Med J
2. Hall, J.A., Petch, M.C. & Brown, M.J. Intracoronary injec-
tions of salbutamol demonstrate the presence of functional β2
adrenergic receptors in the human heart. Circ Res 1989, 65:
546–553.
Chlorhexidine-induced gastritis.

S. Roche, R. Chinn and S. Webb

*Postgrad Med J* 1991 67: 210-211
doi: 10.1136/pgmj.67.784.210-a

Updated information and services can be found at:
[http://pmj.bmj.com/content/67/784/210.2.citation](http://pmj.bmj.com/content/67/784/210.2.citation)

**Email alerting service**
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

**Notes**

To request permissions go to:
[http://group.bmj.com/group/rights-licensing/permissions](http://group.bmj.com/group/rights-licensing/permissions)

To order reprints go to:
[http://journals.bmj.com/cgi/reprintform](http://journals.bmj.com/cgi/reprintform)

To subscribe to BMJ go to:
[http://group.bmj.com/subscribe/](http://group.bmj.com/subscribe/)