

Clinical Trial Protocol

Iranian Registry of Clinical Trials

11 Jun 2026

Comparison of clinical success rate of fissure sealant with enamel and dentin bonding agents

Protocol summary

Summary

Dental caries is the most common chronic human disease. One of the best ways to prevent occlusal caries is fissure sealant therapy. The ability of fissure sealant to prevent fissure caries is related to sealant retention. Considering the fact that several bonding agents are available in market, clinical evaluations are required to find the durability of the sealants after using bonding agents. The purpose of this study was to compare the durability of the fissure sealant after applying dentin and enamel bonding agents. Thirty healthy 6 to 12 year-old patient with at least one caries-free, fully erupted molar in both sides of mandible were selected. Patients randomly divided into two groups. All fissures of 60 molars were sealed. Group1: Acid etch, dentin bonding Single Bond (3M, ESPE) and Echoseal sealant (VERICOM). Group2: Acid etch, enamel bonding Margin Bond (Coltene/Whaledent AG) and Echoseal sealant. Clinician and patients did not know what kind of bonding agents were used. Cotton roll isolation was used for both groups. Sealants were evaluated 12 months after placement.

General information

Acronym

IRCT registration information

IRCT registration number: **IRCT2014020816525N1**

Registration date: **2014-03-22, 1393/01/02**

Registration timing: **retrospective**

Last update:

Update count: **0**

Registration date

2014-03-22, 1393/01/02

Registrant information

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Name of organization / entity

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Recruitment status

Recruitment complete

Funding source

Shiraz University of Medical Sciences

Expected recruitment start date

2011-03-30, 1390/01/10

Expected recruitment end date

2012-06-30, 1391/04/10

Actual recruitment start date

empty

Actual recruitment end date

empty

Trial completion date

empty

Scientific title

Comparison of clinical success rate of fissure sealant with enamel and dentin bonding agents

Public title

Comparison of clinical success rate of fissure sealant with enamel and dentin bonding agents

Purpose

Prevention

Inclusion/Exclusion criteria

Inclusion criteria: 6 to 12 year old patient; at least one caries-free, fully erupted molar in both sides of mandible

Age

From **6 years** old to **12 years** old

Gender

Both

Phase

N/A

Groups that have been masked

No information

Sample size

Target sample size: 60

Randomization (investigator's opinion)

Randomized

Randomization description**Blinding (investigator's opinion)**

Double blinded

Blinding description**Placebo**

Not used

Assignment

Parallel

Other design features**Secondary Ids**

empty

Ethics committees**1****Ethics committee****Name of ethics committee**

Shiraz University of Medical Sciences

Street address

Namazi square, Zand street, Shiraz

City

Shiraz

Postal code**Approval date**

2010-09-23, 1389/07/01

Ethics committee reference number

5589

Health conditions studied**1****Description of health condition studied**

Relationship between retention of fissure sealant and dentin and enamel bonding agents

ICD-10 code**ICD-10 code description****Primary outcomes****1****Description**

Retention of fissure sealant

Timepoint

12 month

Method of measurement

Clinical examination

Secondary outcomes

empty

Intervention groups**1****Description**

In first group we used acid etch, dentin bonding Single Bond and Echoseal sealant.

Category

Prevention

2**Description**

In second group we used acid etch, enamel bonding Margin Bond and Echoseal sealant.

Category

Prevention

Recruitment centers**1****Recruitment center****Name of recruitment center**

Shiraz University of Medical Sciences

Full name of responsible person**Street address****City**

Shiraz

Sponsors / Funding sources**1****Sponsor****Name of organization / entity**

Shiraz University of Medical Sciences

Full name of responsible person

Mr. Eskandari

Street address

Namazi square, Zand street, Shiraz

City

Shiraz

Grant name**Grant code / Reference number****Is the source of funding the same sponsor organization/entity?**

Yes

Title of funding source

Shiraz University of Medical Sciences

Proportion provided by this source

100

Public or private sector

empty

Domestic or foreign origin

empty

Category of foreign source of funding

empty

Country of origin
Type of organization providing the funding
empty

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Person responsible for general inquiries

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Sharing plan

Deidentified Individual Participant Data Set (IPD)
empty
Study Protocol
empty
Statistical Analysis Plan
empty
Informed Consent Form
empty
Clinical Study Report
empty
Analytic Code
empty
Data Dictionary
empty