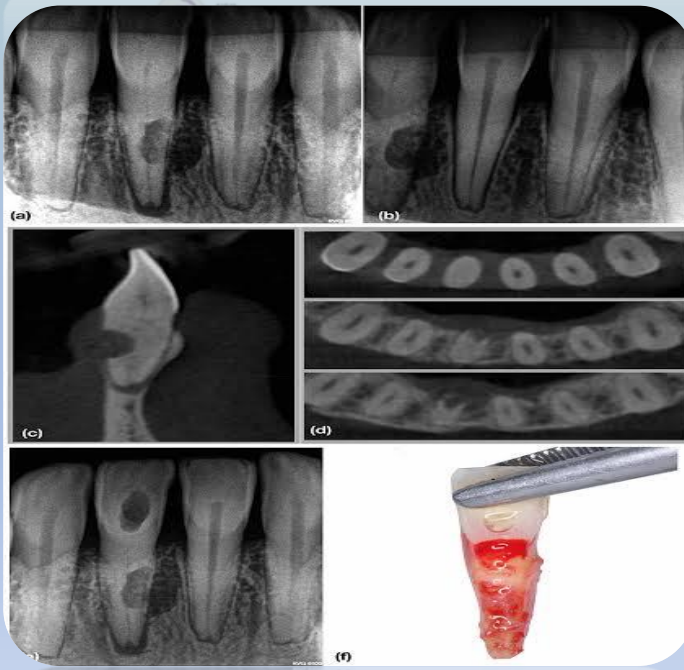
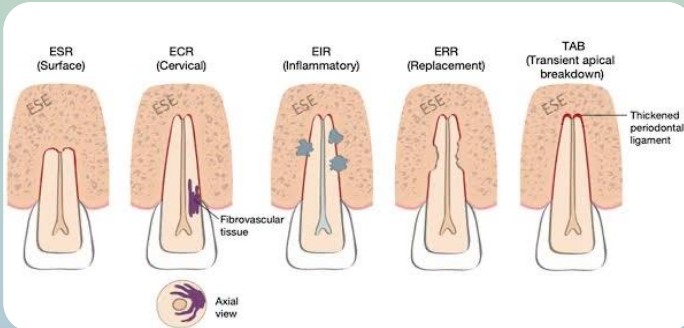
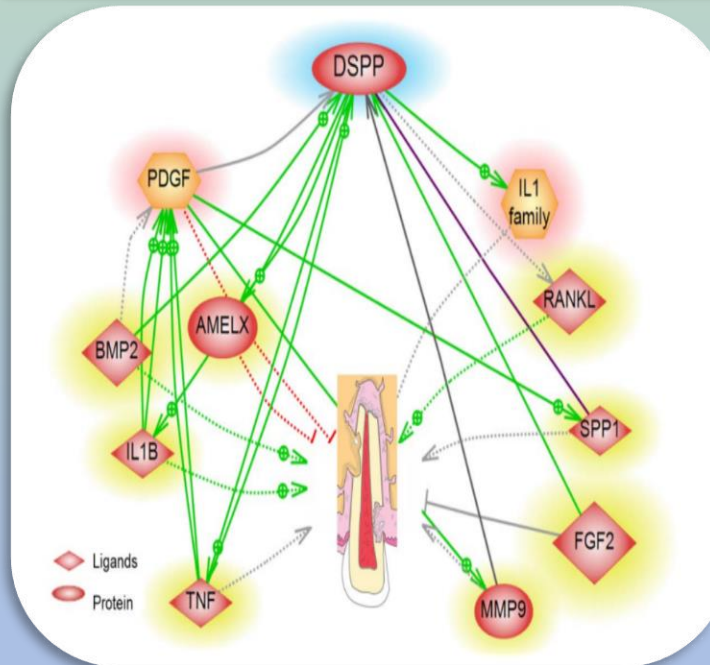


TRACKING THE TRIGGERS: BIOMARKERS OF EIRR

External inflammatory root resorption

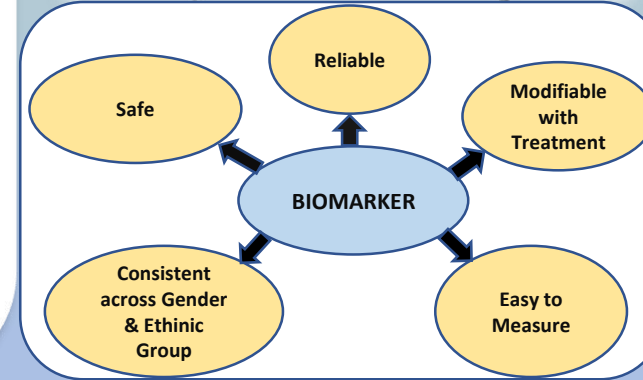
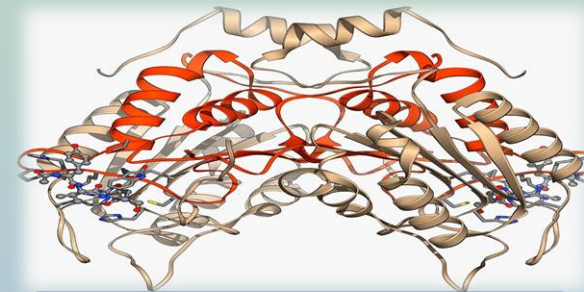


A biomarker is a measurable biological substance essential for early diagnosis, tracking their progression and treatment



Biomarker	Pathway/Function	Detection Site
RANKL/OPG	RANKL/RANK/OPG Signaling Pathway	GCF
IL1-Beta	Inflammatory pathway	GCF
TNF-Alpha	Inflammatory Pathway	GCF
Dentin Sialoprotein (DSP)	BMP/Smad, JNK, ERK, MAPK, and NF-κB signalling	GCF
Dentin phosphoprotein (DPP)	AKT and mTOR	GCF
Interleukin-6	Notch Signaling	GCF/PDL
MicroRNA-29	Osteoclast regulation	GCF

IL-1 Beta



Advantages

Non-invasive
Easy
Pain free
Repeatable
No training required

Disadvantages

Low accuracy
Lack of reference ranges
Affected by oral status

DIAGNOSIS



CONCLUSION

DSPP, TNF- α , IL-6, IL1-B, and MicroRNA-29, are promising GCF biomarkers for EIRR. In the future, such markers may be used in developing an exam kit for the detection of resorption biomarkers in GCF in a non-invasive manner.